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ABSTRACT

This report presents a summary of findings and conclusions concerning plans for graduate and professional education together with recommendations for future actions on the part of the agencies cosponsoring the study. In 1967, 149 universities representing all types of institutions across the nation were visited. It was hoped that answers to 4 major questions would provide data and trends truly indicative of the future. Questions concerned: (1) institutional plans for expanding graduate and professional schools substantially during the next 15 years and the nature of the expansion; (2) the expected establishment of graduate and professional programs by new institutions and their financing; (3) expansion of graduate and professional schools as the result of state plans; and (4) the extent to which plans of existing and new institutions for expansion or establishment of graduate or professional work depend upon federal policies and programs. (AF)

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STUDIES IN THE FUTURE OF HIGHER EDUCATION
REPORT NO. 2

THE EXPANSION OF GRADUATE AND PROFESSIONAL EDUCATION DURING THE PERIOD 1966 TO 1980

THE ACADEMY FOR EDUCATIONAL DEVELOPMENT, INC.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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THE EXPANSION OF GRADUATE AND PROFESSIONAL EDUCATION DURING THE PERIOD 1966 TO 1980

A Summary of Findings and Conclusions

by

ALVIN C. EURICH, LUCIEN B. KINNEY, AND SIDNEY G. TICKTON

Based on field investigations and
preliminary data collected by a team
directed by Lewis B. Mayhew

Prepared for the National Institutes of Health
under Contract PH-43-66-1166 as amended by
Contract PH-43-67-1461

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New York
437 Madison Avenue
New York, New York 10022
(212) 758-5454

Washington, D.C.
1424 Sixteenth Street, N.W.
Washington, D. C. 20036
(202) 265-5576

Denver
820 Sixteenth Street
Denver, Colorado 80202
(303) 244-9258

FOREWORD

This is the second in a series of reports on the future of higher education 1966-1980. The reports are being prepared by the Academy for Educational Development based on studies conducted by the Academy under contract with the National Institutes of Health, with the cosponsorship by the United States Office of Education, the National Science Foundation, and the Bureau of Health Manpower. The studies are under the general direction of Sidney G. Tickton, Vice President of the Academy.

This report provides a summary of findings and conclusions about the plans for graduate and professional education for the period to 1980 together with recommendations for future action on the part of the agencies cosponsoring the study. Supporting materials have been made available to the cosponsoring agencies for their use.

During the course of the study covered by this report, the day-to-day field work, including the gathering and the original tabulating of the data, was directed by Dr. Lewis Mayhew, Professor of Education at Stanford University. He was assisted by a group of university faculty members, administrators, and other education specialists who are listed in Exhibit 1. Interviews were held with presidents, graduate deans, professional school deans, and other knowledgeable persons on the various campuses. The persons interviewed are listed in Exhibit 2, and a copy of the interview schedule is in Exhibit 3.

Dr. Mayhew prepared two drafts of a report on his activities during the study, which included his findings, observations, and conclusions. These drafts and other material assembled were then turned over to Dr. Lucien B. Kinney, Emeritus Professor of Education (Teaching and Mathematics), at Stanford University. The Academy placed in Dr. Kinney's hands the responsibility for the final tabulation of the data and the preparation of the detailed analysis.

The assembly of the data for this study was possible only because of the cooperation and assistance of literally hundreds of university officials in every part of the country. They provided the information needed where they could and were helpful to the field team in a great variety of ways. The Academy uses this opportunity to thank them publicly and to express appreciation for their many kindnesses as well as their continued patience.

The Academy also wishes to acknowledge with thanks the advice, counsel, and assistance provided throughout the course of the study by the cosponsoring agencies. In particular we are greatful to Dr. Herbert Rosenberg of the National Institutes of Health who acted as project monitor for this study and to Dr. John Chase of the Office of Education, Dr. Charles Falk of the National Science Foundation, and Dr. Alan Kaplan of the Bureau of Health Manpower.

Alvin C. Eurich
President
ACADEMY FOR EDUCATIONAL DEVELOPMENT, INC.

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I. Purpose and Method, Conclusions and Recommendation

By Alvin C. Eurich and Sidney G. Tickton

A. Purpose and Method

1. The purpose of the study covered by this report was to ascertain the prospective changes in graduate and professional education in a sample of universities with the hope of finding evidence to support conclusions for higher education as a whole.

2. The sample consisted of 149 universities all of which were visited in 1967. They were widely distributed across the country. Included in the group were both public and private universities, some older and some newer institutions, some well established with graduate programs already leading to the substantial production of doctorates, some less well established in graduate and professional areas with programs which until now have produced few or no doctorates. A description of the sample is in Appendix 1.

3. The sample was not scientifically balanced in the sense that a given proportion of the various classes of universities were included in the list for visits. Instead, the study was designed first to cover all types of institutions, and then to cover especially well and as extensively as possible within the limits of time and finances those universities where a substantial change in the character and extent of graduate and professional programs over the next fifteen years could be expected.

4. The consponsoring agencies felt that this type of approach would produce data and trends that were truly indicative of the future -- more indicative in fact than would a study that depended upon a mathematically weighted sample which would obviously have relied heavily on past educational and degree-granting programs.

5. The study was limited to four main questions about the outlook for graduate and professional education until 1980. These questions, framed by the cosponsoring agencies, were as follows:

(1) What higher education institutions are most likely to expand their graduate or professional schools substantially during the next 15 years? What may be the character of the expansion? What program do they contemplate expanding or offering? How do they expect the various programs to be financed?

(2) What new higher education institutions conducting substantial graduate or professional work can be expected to be established?
What programs can they be expected to offer?
How will they be financed?

(3) To what extent will the expansion of graduate and professional school work be the result of the plans of state systems of higher education? What is the likelihood that these plans will be realized by 1970? 1975? 1980?

(4) How much do public and private plans for the expansion of graduate and professional work at existing institutions or the establishment of new institutions of higher education in graduate and professional areas depend upon Federal government policies and programs? What changes in federal programs and policies might be desirable to facilitate the expansion of existing programs or the establishment of new programs or new institutions? By types of institutions (such as graduate schools, medical schools, other professional schools, etc.)? By geographic areas?

6. The data were gathered by persons of wide experience in higher education under the direction of Dr. Lewis Mayhew, Professor of Education at Stanford University. Where hard data could not be obtained, and this was frequently the case, the schedule used by the interviewer was filled out on the basis of the "best judgments of the persons interviewed." Subsequently the information was verified by sending copies of the material summarized to key executives of the universities concerned for their approval and confirmation.

7. In addition to the specific visits and the assembly of data, the Academy team conferred with many university administrators, government officials, and other persons knowledgeable about graduate and professional education programs -- those now in operation as well as those planned for the future.

8. Dr. Lucien B. Kinney, Emeritus Professor of Education (Teaching and Mathematics), at Stanford University, was asked to tabulate and analyze the data and then to set forth, as he has done in Chapter II of this report, the findings flowing directly from the information assembled.

9. Only the data submitted to the Academy and the results of the interviews have been studied. Comprehensive independent research was not undertaken which necessarily constituted a limitation on the depth of this investigation. Nevertheless, despite this limitation, we believe the data assembled are adequate to support the conclusions that follow, and that additional data would not change them.

B. Conclusions Reached About U. S. Higher Education as a Whole

1. Universities everywhere in the country plan for a substantial expansion of graduate and professional education during the years 1966 to 1980.

2. The bulk of the expansion will take place at public institutions; incremental expansions to initiate highly specific programs are also planned by many private institutions.

3. Universities serving urban areas are expecting a more rapid rate of growth than are other institutions.

4. Some universities now concentrating primarily in science and engineering fields anticipate signficant broadening of their degree programs to encompass the behavioral sciences, the arts and humanities, and, in some instances, the initiation of professional schools.

5. In addition to the 16 provisionally accredited medical schools, no fewer than 43 universities are considering the establishment of a new medical school.

6. Despite the widespread prevalence of plans to expand graduate and professional education, these plans are frequently not written down in any detail.

7. In the few cases where the plans are written down, they usually do not contain year-by-year projections of enrollment, faculty needs, equipment needs, etc. A year-by-year timetable is regarded as altogether too confining, too subject to accidents of timing, such as (a) the draft, (b) the temporary availability or temporary lack of financing, personnel, or equipment, (c) political developments -- sometimes political party developments but more often the activities of particular political personalities.

8. The plans, written or unwritten, usually involve a broadening of the scope of the activities of most universities -- many departments heretofore limited to bachelor's degree programs now plan master's degree programs, many with master's degree programs are considering Ph.D. programs.

9. Most university expansion plans involve new master's degree and Ph.D. programs, as well as the expansion of present programs. Most of the enrollment expansion will be at the master's degree level and in a wide variety of fields. No cutbacks in programs are being

planned anywhere -- the theory seems to be that society is going to need more of everything for decades ahead.

10. Expansion plans at most universities do not distinguish clearly between the volume and extent of master's degree work as compared with doctoral work. Many master's degree programs will be converted into doctoral programs at the first opportunity, depending upon the caliber of the students and faculty, the availability of finances, space, equipment and library facilities and the approval by coordinating boards or accrediting agencies.

11. Nobody knows how much the new or expanded graduate programs will cost in the future. Few key officials have any desire to put the figures down, particularly on a year-by-year basis. They take refuge in the fact that present cost breakdowns between graduate and undergraduate programs are usually more or less arbitrary; and that the academic part of future plans have not been set down, usually, in writing.

12. Nobody knows how new and expanded graduate and professional programs will be financed during the period 1966 to 1980, particularly on a year-by-year basis. The tendency everywhere is to conclude that future financing problems will have to take care of themselves. The reasoning is that if society has a great demand for highly trained persons with graduate and professional training, the universities (both public and private) will be called upon to provide the training necessary and Federal taxing power will be used to provide a substantial portion of the funds required.

13. Everyone agrees that in the future, as now, all graduate and professional programs will be more expensive per student at the doctoral level than at the master's level. However, a greater dollar volume of expenditure will be required at the master's level because of the larger number of students expected to be involved (for example, the number of master's degrees awarded in 1976 is expected to be ten times greater than the number of doctoral degrees).

14. Many university officials refuse to talk publicly about their plans for the expansion of graduate and professional education; those that do make public statements rely heavily on generalities.

15. In many cases, the plans of individual publicly controlled universities for the future development of graduate and professional work do not jibe with the ideas of the statewide coordinating boards. Coordinating board officials are much more concerned with potential future budget limitations than are individual institutions, about the great political need to put the educational programs where the people are (mainly undergraduate, and within this area mainly junior college), and about the relatively high cost of graduate and professional programs.

16. Many of the decisions on the location of or the expansion of professional schools (particularly medicine) or the offering of new Ph.D. programs will be essentially political decisions. Some of these decisions will be made directly by legislatures, others by coordinating boards, and others indirectly by the Governor's office through the management of the annual budget.

C. Implications for Federal Government Agencies (or, what does all of this mean?)

1. Officials of universities offering graduate and professional programs (or those planning to offer new such programs) are counting on the fact that society's need for highly trained personnel (at home and abroad) are likely to be so great in the period to 1980 that it is essential to plan for expansion of programs even without knowing precisely where the financing is coming from or without writing down explicit details.

2. Obviously these officials expect increased financing to be provided by state government agencies, by students and their parents through tuition payments, and by private donors. However, these officials agree that the amount involved from the sources just listed is not likely to be large enough in the years ahead. The clear implication is that a substantial proportion of future financing of universities is being expected from Federal government appropriations.

3. The appropriation expected from the Federal government involve by implication many types of potential need -- operating grants for graduate and professional programs, fellowships for students, construction funds, and funds for the support of libraries and cultural activities. Funds are also expected for research in amounts far above present levels and on a more generalized basis (that is, less directed to specific projects or categories of activity). In fact, a large proportion of the nation's entire graduate and professional educational

operation is by implication expected to be made possible with large and direct Federal grants-in-aid and can be made possible only with such aid.

4. The appropriations expected from the Federal government in support of graduate and professional education are (by implication if not direct statement) expected by all types of universities likely to be providing graduate and professional education in the future. This includes public as well as private universities, church-related as well as independently controlled institutions, most prestigious as well as less prestigious, large as well as small, and those relatively well endowed and financed as those well less endowed and financed. In brief, every university in the country likely to offer graduate and professional programs in the future expects by implication at least that large amounts of Federal aid will be needed to make foreseen activities possible and to keep the institution solvent.

5. These expectations by university officials in all types of universities in all parts of the country mean that the pressures for Federal support of graduate and professional programs (present and new) are likely to rise in the years to 1980. In response to these pressures officials of Federal government agencies responsible for Federal grants are going to be expected to present the case for these expanded programs to Congress. Top officials of the agencies cosponsoring this study are likely to be assigned major portions of this responsibility. Officials of other federal agencies can be expected to be involved too.

6. These government agency officials are going to have to be prepared to withstand whatever program examinations Congress wishes to undertake. For this they will need documentation, factual compilations, projections, briefs, and such other supportive evidence as can be assembled and might be brought to bear on matters of need, cost, program, cost/benefit, prospective results, etc., in the decade ahead.

D. Recommendation

In view of the foregoing state of affairs (and there can be little doubt about the matter after examining the material assembled by Dr. Mayhew and summarized by Dr. Kinney) we propose that officials of Federal government agencies, individually and together, recognize what is happening behind the scenes at the nation's leading universities, and proceed to assemble data on the potential trends, demands, and needs for the future.

The first step would be for Federal agencies to require universities throughout the country to start documenting their future needs by providing carefully detailed plans for undergraduate, graduate, and professional school activities including year-by-year projections for 10 to 15 years. The documentation should be required (say, in the fiscal year 1970 and continuing thereafter)* as a condition to the making of any grant for institutional support, or institutional development, or a grant or loan for construction, or whenever Federal awards in an annual total exceeding $500,000 are applied for by any university.

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* A copy of the documentation should accompany and be made part of the application for a grant or loan in the categories described. However, in the beginning the submission of the material might be scaled in over a period of time, say, 18 months, in order to allow for the preparation of manuals, guidelines, and case studies and the conducting of seminars to explain the requirements and technique.

E. Discussion of Recommendation

1. Officials of a few public universities and an even more limited number of private universities have made projections and prepared carefully documented plans for the decade ahead. There is no doubt that these projections and plans may have limitations. Nevertheless, useful projections can be and have been made and they are helpful as the background for the making of major policy decisions.

2. It would be possible for all universities asking for grants and loans from Federal agencies to put their plans down on paper, including projections for the decade ahead. This would not be an unreasonable requirement when hundreds of millions if not billions of dollars a year can be expected to be involved.

3. The idea of long-range projections has an extensive history in commerce, industry, and government. For many years manufacturing, commercial, and financial corporations have made long-range projections of income and expenditures on which to base policy decisions on the planning of production, sales programs, new plant construction, and new debt commitments. Public utilities and those government agencies which build highways, bridges, tunnels, terminals, and other revenue-producing structures have also made detailed projections for all key

operating accounts far into the future. Sometimes a series of projections have had to be prepared in order to illustrate the effect on the outlook for receipts and expenditures, of variation in timing, prices, costs, the extent of the market, and the availability of finances, or of the development of new economic, social, or environmental factors which can influence an organization's activities.

4. The technique for developing projections for universities of the type indicated has already been worked out by the group of universities that prepared 10-year budget plans for the Ford Foundation (for a number of years the Foundation has required a long-range plan including a ten-year budget as a part of the documentation for unrestricted large grants to higher education institutions).

5. From the experience of the universities which have made long-range projections it is clear that:

a. The technique is adaptable to all types and sizes of educational institutions.

b. Although time consuming, the procedure is not difficult and can be used for developing projections by all key policy and staff officials in universities of various types both large and small.

c. The format is readily adaptable to computers for information storage and for testing and developing alternative projections.

d. Computer specialists and other technicians can ease the mechanical burden of the statistical compilation and the preparation of the tables needed -- but only after key planning assumptions have been worked out by top policy making officials.

e. The results are useful and informative to administrators and trustees and legislators as well as to potential donors and representatives of grant making agencies both public and private.

6. Aside from the desirability of requiring documented plans to back up requests for grants and loans from universities as a technique of good management, Federal government agencies should require a 10-year long-range planning budget for each university applying for a federal grant or loan because:

a. A long-range planning budget is especially useful in showing the future consequences of a decision or a series of decisions made today.

b. A long-range planning budget requires at least tentative answers to some of the hard questions each institution has to face; for example, such questions as:

Where do you want to be ten years from now?
How are you going to get there?
What purposes will you be serving during the next decade?
How many persons can you expect to serve in 1970? 1975? 1978?
What sources of income other than government can you expect?

Why is it reasonable to expect that government support at present levels will be continued?

What would happen if government support were cut back?

(Here the questions have hardly started, but there is no need to go further, because those mentioned illustrate the point.)

c. A long-range budget has to balance, both for operating and for capital calculations; outgo has to be matched by income from some source.

d. A long-range planning budget will provide Federal agencies with a profile of information on each institution that ties together past, present, and future activities. The profile could become a brief for each university or college showing that there were plans for the future, that they could be reduced to writing, that they were possible of achievement on the schedule indicated, and that they could be backed up by facts and figures as well as reasonable projections year-by-year for the future.

In addition to all of these reasons Federal government agencies as "prudent" distributors of government grants and loans "have to know" the facts about grantees. If information needed is not obtained at the time that grant applications are submitted and if there isn't a regular updating, adequate information never will be available.

7. Long-range plans and the process of obtaining them as described in this report are not an assessment of past or present activities although obviously they start with them. The process is one of setting guidelines

for the future which can then be examined, reassessed or realigned from time to time as required.

8. Mechanics for action: The recommendation that universities be required to start documenting their needs by providing well thought out and carefully detailed plans for undergraduate, graduate, and professional school activities including long-range projections is not a casual proposal submitted with the expectation that it will be relegated to the files. The necessary implementation is possible and can be carried forward with a minimum of difficulty. It is likely that in the first year, however, many universities will require technical assistance in the preparing of the projections and the other documents. This could be provided in a number of alternative ways. For example:

(a) Federal agencies individually could provide assistance to the universities from whom they receive government or loan applications.

(b) A single Federal agency could agree to provide assistance as the representative of the entire Federal establishment.

(c) An outside organization could provide the necessary services under contract to one or more Federal Agencies.

The procedure involves preparing the materials that are needed, conducting seminars to explain the program, working out the details that are involved, and organizing the follow-up work. Funds would be needed for the preparation and distribution of materials and the follow-up work. The seminars themselves could be largely self-supporting, however, with travel and overhead charged to the universities which participated.*

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*This conclusion is based upon the Academy's experience with the 100 or more seminars on long range planning which it has conducted for schools, colleges, and universities under the auspices of the Ford Foundation.

II. Findings for the 149 Universities Studied in 1967

by Lucien B. Kinney

This chapter consists primarily of a series of findings. Its preparation started with the four broad questions raised by the cosponsoring agencies and the data provided by the 149 universities visited in 1967 by the team directed by Dr. Lewis Mayhew, but it goes beyond the questions and those precise data. It is based on all the information on plans, hopes, and expectations that could be obtained from interviews with 300 key persons in the various fields of graduate and professional education.

The findings are presented first with respect to the specific questions raised. Then more general findings derived from a study of the 149 files of material assembled by the field investigators are set forth.

A. Findings with respect to specific questions:

Question No. 1

What higher education institutions are most likely to expand their graduate or professional schools substantially during the next 15 years? What may be the character of the expansion? What programs do they contemplate expanding or offering? How do they expect the various programs to be financed?

Findings:

1. Sixty per cent of the 149 universities studied plan to expand their academic programs at the doctoral level before 1977, either by expanding existing programs or establishing new programs, or both (see Table 1).

2. Eighty-three per cent of the universities studied plan to establish one or more new professional programs within the next 10 years (see Table 1).

3. The public or private control status of the universities studied did not affect greatly the percentages which said there were plans to expand doctoral and professional level programs; for example, 65 per cent of the public institutions and 59 per cent of the private institutions plan to establish new doctoral programs (see Table 1).

4. No cut-backs in programs are contemplated by any university studied.

5. No diminution of social pressure for the expansion of university activities at the graduate or professional levels is apparent.

6. The 149 universities studied expect a growth of 130 per cent between 1967 and 1977 in graduate and professional school enrollments (see Table 2). This is a growth rate of about 10 per cent per year compounded. Since, as indicated above, the pressures for new graduate and professional programs are increasing nationwide, the chances are that projections to 1977 now being made by university officials are low.

Table 1

INSTITUTIONS PLANNING TO EXPAND OR ESTABLISH
DOCTORAL OR PROFESSIONAL DEGREE PROGRAMS, 1967
(Based on Sample of 149 Universities)

Item	Doctoral	Professional Degree
Number of Institutions	149	149
Number Planning to Expand Existing Programs	44	43
Per Cent of Total	30%	30%
Number Planning to Establish New Programs	90	124
Per Cent of Total	60%	83%
Percentage planning to expand existing programs, classified by control status		
Public	29%	25%
Private	35%	41%
Percentage planning to establish new programs		
Public	65%	83%
Private	59%	85%

Table 2

OUTLOOK FOR GRADUATE AND PROFESSIONAL SCHOOL ENROLLMENTS

1967-1977

At 149 Universities

Item	Number
Number of Institutions	149
Current Enrollment	158,800
Projected Enrollment	366,300
Projected Increase	207,500
Per Cent of Increase	130%
Average Increase per Institution	1,400

7. Plans for expansion of existing academic programs usually relate to raising the level of the offerings -- departments hitherto limited to bachelor's degree programs plan to offer the master's degree, while those offering the master's degree aspire to offering the doctorate.

8. In doctoral programs in the arts and sciences, the existing programs most likely to be expanded, and also the new programs most likely to be established, are in the physical sciences.

9. An increasing probability is that new programs to be established will involve an organized interdisciplinary study of a major problem area (for example, urban studies or oceanography). Some or all of the following characteristics will be included:

   a. The problem is one the solution of which is essential to the welfare of our society.

   b. An organized attack on the problem will provide training for specially needed personnel.

   c. The program is designed to develop techniques and information needed in new industries.

10. Engineering, education, business, medicine, law, and nursing are the professions for which most programs of preparation will be expanded or established. A summary is in Table 3.

Table 3

SUMMARY OF EXPANSION AND NEW PROGRAMS PLANNED IN PROFESSIONAL FIELDS, 1967

(Based on Sample of 149 Universities)

Item	Number of Expansions Planned	Number of New Programs Planned	Sum of New and Expanded Programs
Agriculture	2	5	7
Architecture	1	16	17
Business	18	38	56
Dentistry	1	14	15
Education	30	38	68
Engineering	32	49	81
Home Economics	1	5	6
Journalism	0	9	9
Law	10	19	29
Librarianship	0	16	16
Medicine	7	43	50
Nursing	7	21	28
Pharmacy	3	5	8
Social Work	7	16	23
Veterinary Medicine	2	9	11
TOTAL	121	303	424

11. Increasingly programs in engineering will be established as fields for doctoral study, or as specializations emerging from technological advance.

12. Programs to prepare personnel for management and administration will probably continue to be organized as areas within broader fields of study, or as advanced programs for persons with backgrounds in engineering and other professions.

13. Costs in higher education are increasing at a rate which has accelerated sharply since 1960, and will probably continue to accelerate, especially at the graduate level.

14. The rising costs of higher education are due to:

    a. An increasing college-age population, and an increasing proportion of college-age population attending college.

    b. An increasing proportion of college students at the graduate level, where per student costs are highest.

    c. The explosion of knowledge which places new and expanded strains on staff, library, laboratory facilities, and plant.

    d. Increasing costs for faculty salaries, maintenance, and all items of operating expense.

15. If the present acceleration of cost increases continues, the cost of research alone in 1977 will equal the present total cost of higher education.

16. Public institutions expect that escalating costs will be financed by expanded state and Federal funds, and in some instances by tuition increases.

17. Private institutions expect to increase tuition broadly and in addition to seek Federal funds and increasing contributions from private sources.

18. Measures now planned are not likely to be adequate to meet the financial problems confronting the universities -- either public or private. University officials in general recognize the inadequacy. The implicit assumption appears to be: If the present demand for highly trained personnel, and for research on technical and social problems continues (and who doubts that it will?) society will somehow find the necessary funds.

Question No. 2

What new higher education institutions conducting substantial graduate or professional work can be expected to be established?

What programs can they be expected to offer? How will they be financed?

Findings:

19. Plans to establish a total of twelve new institutions which will ultimately conduct substantial graduate or professional work are being made in six states (see Table 4).

20. Four of these institutions are in the planning stage, and do not yet have legislative authorization.

21. Each of the four is a public institution, to be financed through legislative appropriations.

22. For the next five years, at least, little graduate work beyond the masters level is contemplated at any of these institutions.

23. Except for two schools offering work at the masters level in education and business, no openings of professional schools are planned in the new institutions within the next five years.

Question No. 3

To what extent will the expansion of graduate and professional school work be the result of the plans of state systems of higher education? What is the likelihood that these plans will be realized by 1970? 1975? 1980?

Table 4

PLANS TO ESTABLISH NEW INSTITUTIONS WHICH WILL ULTIMATELY CONDUCT GRADUATE AND PROFESSIONAL WORK

1967-1968

State	Number Already Authorized	Number Planned, Not Yet Authorized	Total
Arkansas		1	1
California	3		3
Idaho	1		1
Florida	2		2
Illinois	2	2	4
New York		1	1
TOTAL	8	4	12

Note: All institutions reported to be in the planning stage are public institutions.

Findings:

24. Many states have established coordinating agencies for higher education; quite a few have developed master plans for higher education in the state, based on factual reasearch data; however the direct influence of state master plans appears to be felt only at the public institutions.

25. In some states, where the higher education coordinating agency has established plans with a schedule for expansion and establishment of programs, there appears to be a reasonable probability that the schedule will be met. In some other states planning by the higher education coordinating agency appears to be unrealistic, and unrelated to the financial capabilities of the state.

26. In every state the prospects are that the needs of higher education can be met only by a well-designed structure of higher education in which each institution, public and private, has a proper role and scope of responsibility that is clearly defined.

27. Decisions of higher education coordinating agencies are more likely to be influenced by legislative pressure, and by public interest in undergraduate and junior college education, than are the decisions of university officials themselves.

28. Generally state higher education planning agencies were cited as a force for expansion, rather than as an actual or potential obstacle.

Question No. 4

How much do public and private plans for the expansion of graduate and professional work at existing institutions, or the establishment of new institutions, depend upon Federal government policies and programs? What changes in Federal programs might be desirable to facilitate an expansion of existing programs or establishment of new programs? By types of institutions? By geographic areas?

Findings:

29. In 1968, Federal government appropriations provided for 22 per cent of the expenditures for higher education. This was more than four times the amount provided by the Federal government in 1962.

30. No less than 80 per cent of the universities reporting on Federal support (89 out of 109 in the sample) say they are relying to some extent on Federal government funds for the support of graduate and professional education (see Table 5).

31. The reasons most commonly given by university officials for continued need for Federal government funds were the following:

a. Expansions that were occasioned and supported by Federal funds were planned on the supposition that there would be continued Federal support.

Table 5

RELIANCE ON FEDERAL SUPPORT BY UNIVERSITIES REPORTING TO THE STUDY

(Based on Sample of 149 Universities)

Item	Public	Private	Total
Total number of universities in sample	115	34	149
Number not reporting information on reliance on Federal support	30	10	40
Number reporting information on reliance on Federal support	85	24	109
Number reporting relying on support in varying degrees -- see below	70	19	89
Percentage reporting relying on Federal support in varying degrees	82%	80%	80%
Further detail on the 109 universities reporting			
Relying on support			
Support valuable, not indispensable	12	6	18
Heavily dependent on support	20	2	22
Support indispensable to expansion	25	6	31
Support indispensable to status quo	13	5	18
Subtotal (as above)	70	19	89
Not relying on support	15	5	20
Number reporting (as above)	85	24	109

b. No alternative sources for the support of these expansions exist.

c. Other expansions are becoming equally essential in the research-oriented climate that increasingly characterizes American higher education.

32. The most frequently mentioned purposes for which federal funds are needed were the following:

a. To build new facilities.

b. To provide graduate stipends for research activities and instruction.

c. To support medical schools.

d. To support research and advanced study in the humanities.

33. Projections of proposed expenditures and the expected volume of Federal government funds to 1975-76 and 1980-81 do not reveal any expectation that the federal government will assume a greater proportion of financial support than at present.

34. Modifications most frequently suggested for Federal government programs were the following:

a. More direct institutional support.

b. Support for overhead and operational costs.

c. More aid for students.

d. More flexibility in Federal government control of grants.

e. Better coordination among the Federal government agencies in Washington.

B. Findings With Respect To The 149 Universities Divided Into Various Classification Groups

In this section the data for the 149 universities studied are divided into four broad groups, which are described, along with a listing of the universities in each category, in Appendix 1. Briefly, Group A universities were those that have large and long established doctoral programs in many fields, and are generally considered to be the nation's best in terms of quality of graduate education, based on the evaluation in the Cartter report.* Group D universities are those which had not yet granted doctorates as of June, 1966. The remaining universities were divided between Groups B and C primarily on the basis of their different stages of development; those that already were strong in a large number of fields were placed in Group B, while the others having few well-developed fields at present were assigned to Group C.

It is recognized that any classification is inherently arbitrary, and also that a number of schools that meet the qualifications in each group were not included in the sample.

Findings re doctoral programs:

1. Both in program expansion and in providing for enrollment increases the public institutions are assuming leadership in graduate and professional education, and can be expected to maintain it in the foreseeable future.

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* An Assessment of Quality in Graduate Education, Allan M. Cartter, American Council on Education, 1966.

2. The proportion of public institutions planning to establish new doctoral programs in academic fields (65%) is somewhat above that for private institutions (59%). However, in expanding existing doctoral programs the proportion of private institutions planning to expand (35%) is slightly above that for public institutions (29%). The figures are compared in Table 6 that follows.

3. The average number of expansions of existing academic programs at the doctoral level is the same per institution in the public as in the private institutions; that is, 1.4 per institution.

4. The average number of new programs to be established per institution in academic fields at the doctoral level is about twenty per cent greater in public than in private institutions -- 3.2 per institution in public as compared to 2.7 in private institutions.

5. The tendency in private institutions is to plan incremental expansion to initiate highly specific programs.

6. In private institutions with programs already heavily concentrated in the sciences, the emphasis on expansions between 1966 and 1980 is to be directed toward the arts and the humanities.

Findings re professional programs:

7. The proportion of private institutions planning to expand existing programs of preparation for the professions is greater than for the public; the proportion of private institutions planning to establish new professional programs is about the same as for the public, though fewer new programs are planned. The figures are compared in Table 7 that follows:

Table 6

NUMBER AND PERCENTAGE OF INSTITUTIONS PLANNING TO EXPAND EXISTING DOCTORAL PROGRAMS AND TO ESTABLISH NEW PROGRAMS

1967
Based on Sample of 149 Universities

Item	Public Universities					Private Universities					Grand Total
	Group					Group					
	A	B	C	D	TOTAL	A	B	C	D	TOTAL	
Number of Institutions	7	24	39	45	115	6	14	12	2	34	149
Number Planning to Expand Existing Programs	2	13	11	6	32	4	5	2	1	12	44
Per Cent of Total	29%	54%	28%	13%	29%	67%	36%	17%	50%	35%	30%
Number Planning to Establish New Programs	7	15	32	21	75	3	9	7	1	20	90
Per Cent of Total	100%	63%	81%	47%	65%	50%	64%	58%	50%	59%	60%

Table 7

THE NUMBER AND PERCENTAGE OF INSTITUTIONS PLANNING TO EXPAND EXISTING PROGRAMS AND TO ESTABLISH NEW PROGRAMS OF PREPARATION FOR THE PROFESSIONS

1967
(Based on Sample of 149 Universities)

Item	Public Institutions					Private Institutions					Grand Total
	Group					Group					
	A	B	C	D	Total	A	B	C	D	Total	
Number of Institutions	7	24	39	45	115	6	14	12	2	34	149
Number Planning to Expand Existing Programs	1	8	14	6	29	3	7	4	0	14	43
Per Cent of Total	14%	33%	36%	13%	25%	50%	50%	33%	0	41%	30%
Number Planning to Establish New Programs	7	19	35	34	95	6	12	9	2	29	124
Per Cent of Total	100%	79%	90%	75%	83%	100%	86%	75%	100%	85%	83%

8. The average number of expansions per institution of existing professional programs is greater by about twenty per cent in the private than in the public institutions -- 1.1 per institution in the private, and 0.8 in the public.

9. The average number of new professional programs to be established per institution is about thirty per cent greater in the public institutions than in the private -- 2.5 per institution in the public, 1.8 in the private.

10. Public institutions in Group C are expanding their programs more rapidly than those in any other group.

11. It appears likely that within ten years public institutions in Group D will be the most rapidly expanding.

12. The professional programs most likely to be established in public institutions in Group C and D are those than can be organized at the masters level: business, education, engineering, and nursing.

13. Public institutions, especially in Group D are planning a variety of programs at the masters level that will be converted to doctoral programs "when opportunity arises."

14. The public institutions most interested in establishing medical schools are in Groups B and C.

15. In addition to the sixteen provisionally accredited medical schools, no fewer than 43 institutions report that they are considering the establishment of new medical schools (see Table 8).

Table 8

NUMBER OF NEW MEDICAL SCHOOL PROGRAMS PLANNED BY UNIVERSITIES STUDIED

(Based on a Sample of 149 Universities)

Item	Number of Programs
Public Institutions	
Group A	1
B	7
C	18
D	8
Total	34
Private Institutions	
Group A	2
B	6
C	1
D	0
Total	9
Grand Total	43

Findings re enrollments:

16. Projections by university officials indicate that public institutions plan to absorbe the bulk of graduate enrollment increases for the next ten years. While the projected increase in public institutions is at the rate of ten per cent annually, that in the private institutions is a little over four per cent. The figures are in Table 9 that follows.

B. Overall findings from a study of the 149 files assembled by the field investigators

1. Some university administrators were reluctant to discuss contemplated expansions prematurely for fear of arousing unnecessary resistance -- on the campus, in the community, at the legislature. In a few instances the Academy's field investigating team actually failed to uncover expansion plans that had been discussed with Federal government agencies. In a few public institutions some administrators refused to discuss contemplated expansions that might have political ramifications. These tendencies probably reduced the amount of proposed expansions reported, but not to an extent likely to influence the data or conclusions in this report.

2. Except for public institutions in states with a detailed master plan, the investigators did not find many institutions with detailed projections, financial or academic, for ten or fifteen years ahead which were based on factual research data.

3. The financial projections submitted were often claimed to be "wild guesses." Another claim was that projections submitted to foundations

Table 9

GRADUATE AND PROFESSIONAL SCHOOL ENROLLMENTS:

CURRENT AND PROJECTED FOR 1977
1967
(Based on Sample of 149 Universities)

Item	Public Institutions					Private Institutions				
	Group					Group				
	A	B	C	D	Total	A	B	C	D	Total
Number of Institutions	7	24	39	45	115	6	14	12	2	34
Current Enrollment*	22.7	45.8	41.7	5.5	115.7	10.4	20.2	11.3	1.2	43.1
Projected Enrollment*	36.3	98.4	127.1	29.2	301.0	13.8	29.5	19.8	2.2	65.3
Projected Increase*	13.6	52.6	85.4	23.7	185.3	3.4	9.3	8.5	1.0	22.2
Per Cent of Increase	60%	115%	206%	431%	165%	33%	46%	75%	83%	52%
Average Increase per Institution*	1.9	2.2	2.2	0.5	1.6	0.3	0.7	0.7	0.5	0.7

* 000 omitted

or Federal government agencies in connection with grant applications were superficial.

4. The lack of firm plans for expansion (based on factual data and explicit statement of institutional goals) makes many universities susceptible to pressures, political and otherwise, for expansion into areas not directly relevant to their educational mission.

5. The reluctance of universities to make firm plans for expansion and explicit statements of future expenditures and sources of income can be traced in part to unusual uncertainties at the present time in the outlook for the economy as a whole, the draft, political developments, and government financial policies. However, universities are also plagued by a lack of staff with the expertise and time needed to generate and interpret factual and projection data. This combination (uncertainty as to outlook; unavailability of staff time) blocks effectively any management analysis or the development of detailed plans at many institutions.

6. Several states have demonstrated that detailed information and effective long range plans can be drawn up to provide direction and support for expanding state systems of higher education. However, to date, comprehensive statewide plans have covered only public institutions. There are many that believe that the services and advice of the experts should be made available to the private institutions in these states, so that their projections may be combined with those of the public institutions in the development of a genuine statewide master plan for higher education.

Appendix 1

BASIS FOR THE CLASSIFICATION OF THE UNIVERSITIES VISITED BY THE ACADEMY'S TEAM INTO FOUR BROAD GROUPS

The 149 universities visited during the Academy's study of the outlook for graduate and professional education were classified into four broad groups, as shown in Attachment A.

The rules by which this classification was made are outlined in Attachment B. The institutions have been separated according to type of control (public vs. private) and each one has been assigned to one of four categories (Group A, B, C, or D). The resulting distribution of schools is as follows:

Distribution of Institutions by Group and by Type of Control

	Public	Private	Totals
Group A	7	6	13
B	25	14	39
C	39	12	51
D	44	2	46
Totals	115	34	149

A detailed definition of each Group is given in Attachment B. To summarize briefly, the 13 Group A schools have large and long-established doctoral programs in many fields and are generally considered to be the nation's best in terms of the quality of graduate education based upon the most recent evaluation, An Assessment of Quality in Graduate Education, published by the American Council on Education. Group D schools are those schools which had not yet granted doctorates as of June 1966. The remaining 90 schools were divided between Groups B and C primarily on the basis of their different stages of development: those which are already strong in a large number of fields were placed in Group B, while the others, having few fields well-developed at present, were assigned to Group C.

Because any classification is inherently arbitrary, some of the more obvious caveats should be set forth clearly in AED's report. For example, a number of schools that meet the qualifications for inclusion in Groups A and B were not included in the sample: Harvard, California (Berkeley), Columbia, Penn, Chicago, and Cornell are all "Group A" schools. Examples of "Group B" schools that were not included in the study, Kansas, Notre Dame, Southern California, and Bryn Mawr. The sample is virtually complete for Group C, however.

Of the private schools in Group B, three -- Brandeis, Emory, and Rice -- have not produced large numbers of doctorates to date, but they do have a number of strong graduate programs. The University of California at Davis has been included in Group B because (1) it is a relatively new school and (2) most of its high quality graduate programs have been limited to a few fields within the biological sciences -- the school has produced few doctorates outside of those fields. There are several schools in Group B with very large doctoral programs that rank high in Ph.D. output. However, in each case, the ACE assessment rates their graduate programs as less than excellent in quality (e.g., NYU, Iowa, Iowa State, Michigan State, Ohio State, Penn State, Purdue, and Texas). Some of these schools are planning large expansions and three -- Penn State, Michigan State, and Texas -- are developing new medical schools.

Of the 51 schools in Group C, only 26 were rated in the Cartter study.[1] They are:

Ala.-Tuscaloosa
Arizona
Arkansas
Conn.-Storrs
Delaware
Houston
Kansas State
Kentucky
LSU-Baton Rouge
Mass.-Amherst
New Mexico
N.C.-Raleigh
Oklahoma State
Buffalo
Temple
Tenn.-Knoxville
Texas A&M
V.P.I.
Boston U.
Catholic U.
Claremont G.S.
Denver
Geo. Washington
I.I.T.
Lehigh
Rockefeller

Rockefeller and Delaware were given very high quality ratings by Cartter but in limited areas -- Rockefeller in the biological sciences, and Delaware in chemistry and chemical engineering. It should be noted here that Rockefeller plans to expand into the physical sciences, social sciences, and the humanities. Several of the Group C schools are quite likely to become major centers of graduate education within a few years; examples are California at San Diego, SUNY at Stoney Brook, and CUNY.

Only two Group D schools are private, and one of them (Mt. Sinai) is affiliated with a public university (CUNY). Of the schools in Group D, the University of California at Irvine appears most likely to become a major university within the next few years, probably moving rapidly into the upper reaches of Group B.

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[1] An Assessment of Quality in Graduate Education, Allan M. Cartter, American Council on Education.

Attachment A. Suggested Classification of 149 Institutions for AED Study

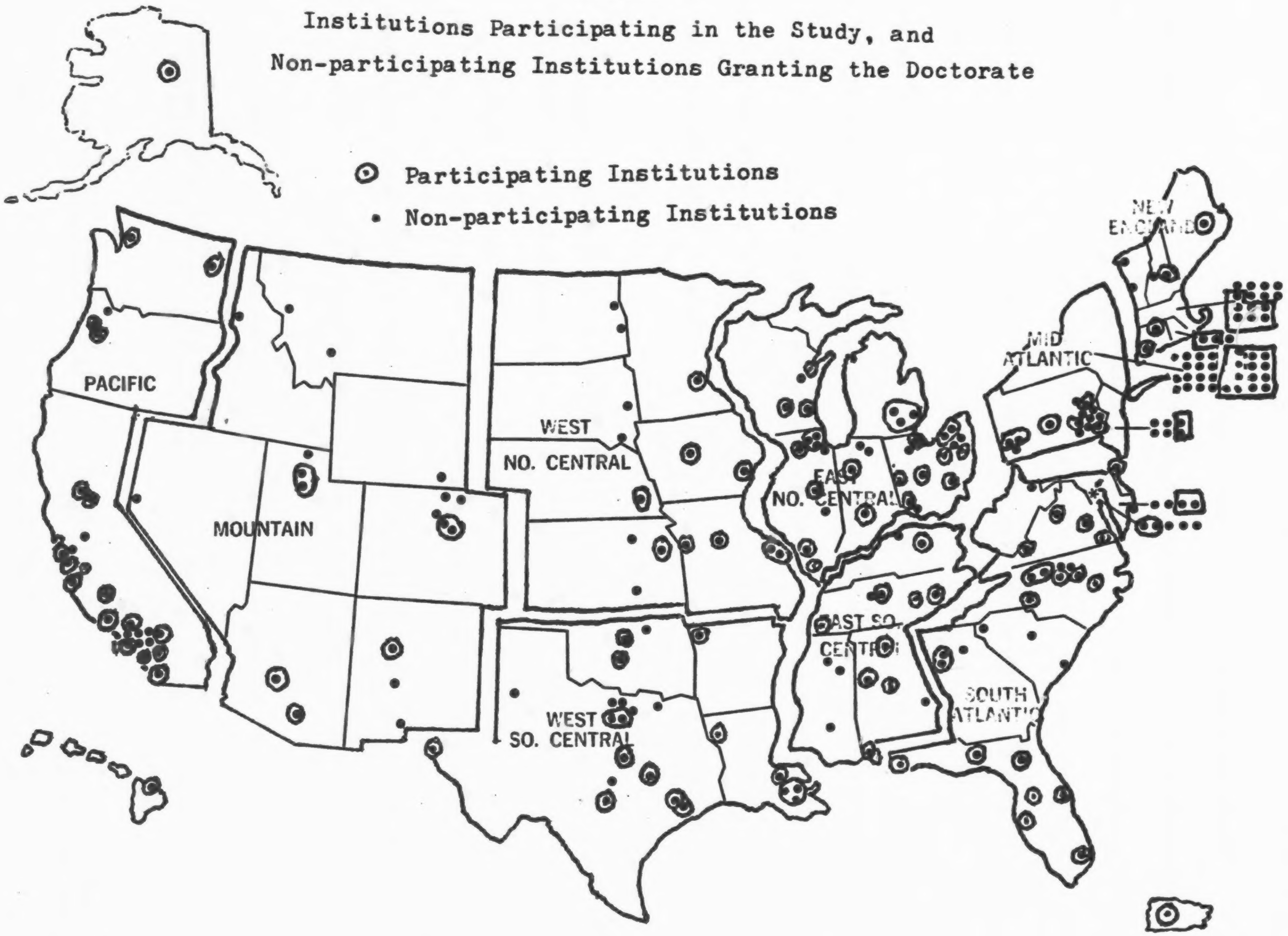
	Public Institutions	Private Institutions
Group A	Ill.-Cham.-Urbana Indiana Michigan Minnesota UCLA U. of Wash. Wis.-Madison	Johns Hopkins MIT Northwestern Princeton Stanford Yale
Group B	Cal.-Davis Cincinnati Colorado Florida Florida State Iowa Iowa State Md.-College Park Michigan State Mo.-Columbia Nebraska N.C.-Chapel Hill Ohio State Oklahoma Oregon Oregon State Penn St.-Univ. Park Pittsburgh Purdue Rutgers Texas-Austin Utah Virginia Wash. State Wayne State	Brandeis Brown Carnegie-Mellon Case Western Reserve Duke Emory NYU R.P.I. Rice Rochester Syracuse Tulane Vanderbilt Wash. U.
Group C	Akron State Ala.-Tuscaloosa Alaska Arizona Arizona State Arkansas Bowling Green State Cal.-Riverside Cal.-San Diego Cal.-S. Barbara CUNY Conn.-Storrs Delaware Hawaii Houston Kansas State Kent State Kentucky L.S.U.-Baton Rouge Maine Mass.-Amherst Mo.-Kansas City New Hampshire New Mexico N.C.-Greensboro N.C.-Raleigh No. Illinois Ohio U. Oklahoma State Rhode Island So. Ill.-Carbondale SUNY-Albany SUNY-Buffalo SUNY-Stony Brook Temple Tenn.-Knoxville Texas A&M Toledo State V.P.I.	Boston U. Brigham Young Catholic U. Claremont Grad. Sch. Denver George Washington I.I.T. Lehigh U. of Miami Northeastern Rockefeller S.M.U.

Attachment A. Suggested Classification of 149 Institutions for AED Study

	Public Institutions		Private Institutions
Group D	Ala.-Birmingham Ala.-Huntsville Calif.-Irvine Calif.-Santa Cruz Calif. St.-Long Beach Cleveland State Conn.-Hartford East Carolina Florida Atlantic Florida Technological U. Fresno State Ill.-Chicago Circle LSU-New Orleans LSU-Shreveport LSU Med. Ctr.-New Orleans Mass.-Boston Mass.-Worcester Memphis State Miami U. Mo.-St. Louis N.C.-Charlotte Old Dominion Col.	Penn State-Hershey Puerto Rico Sacramento State San Francisco State San Jose State South Alabama South Florida So. Ill.-Edwardsville SUNY-Binghamton SUNY-Nassau SUNY-Westchester Tenn.-Oak Ridge Texas-Arlington Texas-Dallas Texas-El Paso Texas-San Antonio West Florida William & Mary Wis.-Green Bay Wis.-Milwaukee Wis.-Parkside Wright State	Atlanta U. Mt. Sinai Med. Sch.

FIGURE A

Institutions Participating in the Study, and
Non-participating Institutions Granting the Doctorate


⊙ Participating Institutions
• Non-participating Institutions
PACIFIC
MOUNTAIN
WEST NO. CENTRAL
WEST SO. CENTRAL
EAST NO. CENTRAL
EAST SO. CENTRAL
SOUTH ATLANTIC
MID ATLANTIC
NEW ENGLAND

Source: NRC, Office of Scientific Personnel, Doctorate Records File.

Attachment B. Decision Rules Used in the Assignment of Institutions to Groups

There were two primary criteria applied to AED's sample of 149 institutions in assigning them to the four groups described in the preceding memorandum. The first approximation resulting from the use of the primary criteria was then refined by the application of four secondary criteria.

Primary Criteria. The 149 institutions were first split according to whether or not they had granted doctorates prior to June 1966.[1] Those institutions granting no doctorates prior to that date were placed in Group D; the remaining 103 schools were then examined in terms of the quality of the graduate education they are offering. Using Cartter's quality ratings,[2] 16 schools of very high quality were placed in Group A (3 were later removed after a consideration of secondary criteria). Each of these 16 schools met both of the following requirements:

(1) At least half of the ratings given to the graduate faculties in the Cartter study were either "Distinguished" or "Strong;"

(2) At least half of the ratings given to the graduate programs were either "Extremely Attractive" or "Attractive."

Secondary Criteria. The 16 "high quality" schools were then judged on the basis of three secondary criteria, described below:

Size - Each institution was classified as being large, medium, or small according to the number of doctorates it produced during the years 1960-1966 (the data used were published by NAS in Doctorate Recipients from United States Universities 1958-1966). The intervals set to determine these three classes were:

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[1] Doctorate Recipients from United States Universities, 1958-1966, National Academy of Sciences (1967).

[2] Cartter, Alan M., An Assessment of Quality in Graduate Education, American Council on Education (1966).

large - 750 or more doctorates
medium - 75 or more doctorates but less than 750
small - less than 75 doctorates

Breadth - Each institution was judged as being either "broad" or "concentrated." A school was considered to be "concentrated" if at least 75% of its total doctorates during the period 1960-1966 were granted within only one of these five fields: physical sciences, engineering, humanities, social sciences, or biological sciences. A school not meeting this criterion was judged to be "broad."

Age - The age of each school was measured from the date of its first doctorate. Each institution was then placed into one of three groups according to the following definitions:

Old institutions - first doctorate granted in 19th century.
Intermediate institutions - first doctorate granted between 1900 and 1940.
Young institutions - first doctorate granted after 1940.

A school was either kept in or deleted from Group A depending on how it met these three secondary criteria. The following diagram illustrates the decision process used in making deletions from Group A:

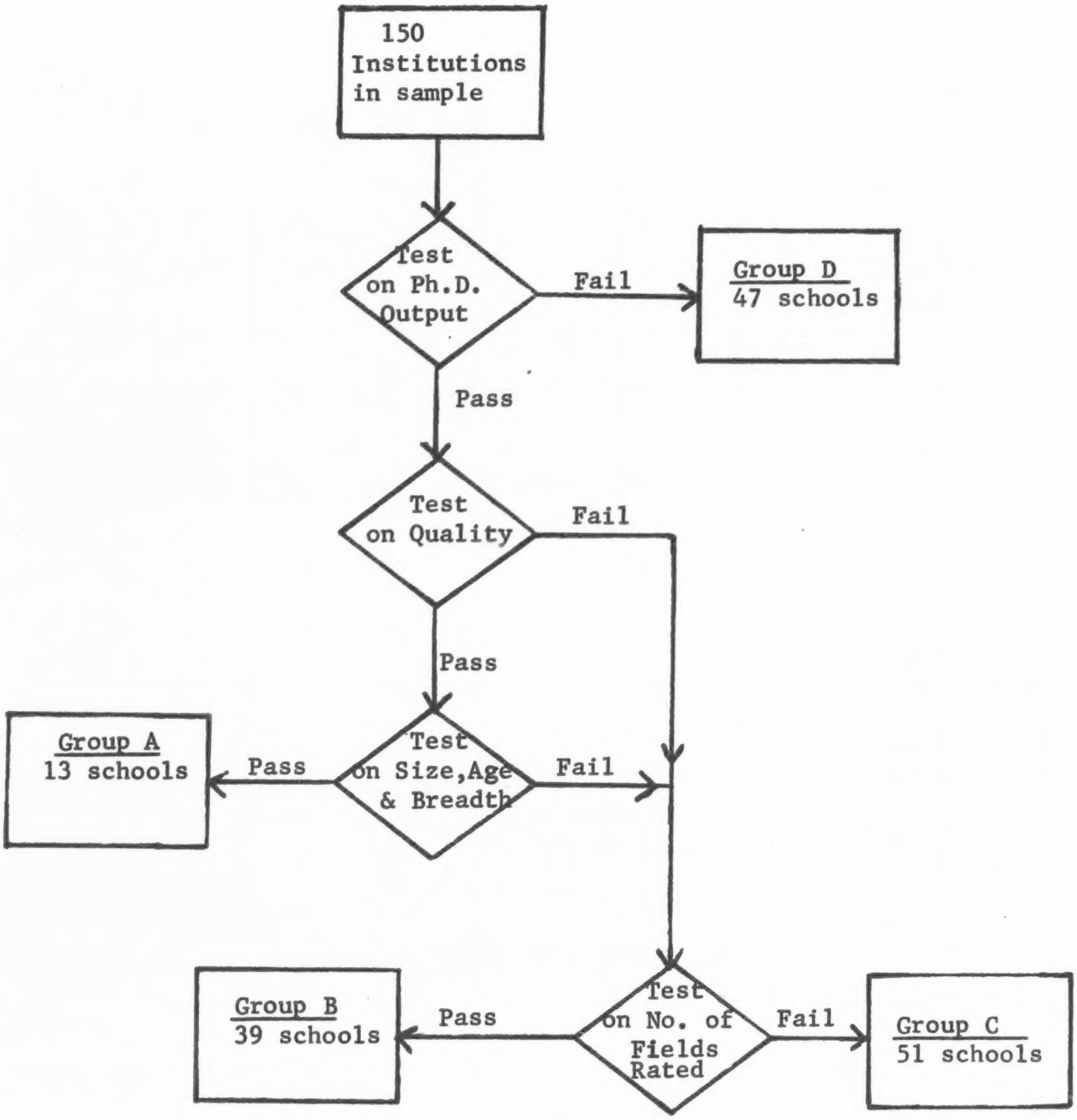
			Age		
			Old	Intermediate	Young
Size and Breadth	Large	Broad	Keep	Keep	Delete
		Concentrated	Delete	Delete	Delete
	Medium	Broad	Keep	Delete	Delete
		Concentrated	Delete	Delete	Delete
	Small	Broad	Delete	Delete	Delete
		Concentrated	Delete	Delete	Delete

Using these criteria, three schools (Rockefeller, Cal-Davis, and Delaware) were deleted from Group A and were included with the other 87 schools yet to be classified.

These remaining 90 schools were then separated into Groups B and C on the basis of another secondary criterion: the number of fields in which a school received a rating in Cartter's publication. If a school had ratings in six or more fields, it was placed in Group B; if the school had less than six fields rated by Cartter, on the other hand, it was placed with the lesser-developed schools in Group C.

The total decision process used in making this classification of institutions is diagrammed below:

Process Used in Classification of Institutions


150
Institutions
in sample
Test
on Ph.D.
Output
Fail
Group D
47 schools
Pass
Test
on Quality
Fail
Pass
Group A
13 schools
Pass
Test
on Size, Age
& Breadth
Fail
Group B
39 schools
Pass
Test
on No. of
Fields
Rated
Fail
Group C
51 schools

APPENDIX 2

Expected Growth in Graduate Programs In Arts and Sciences, 1965 to 1980

Academic Areas	Number and Percentage Distributions								
		Public Institutions*				Private Institutions*			
	Totals	A	B	C	D	A	B	C	D
Arts and Humanities									
1. Art									
Total Number of Institutions	149	7	24	39	45	6	13	12	2
Number planning Expansion	8	1	1	3	2	0	0	1	0
Number planning New Programs	18	1	4	6	3	1	3	0	0
Sum: New and Expanding	26	2	5	9	5	1	3	1	0
Sum as percent of Total	18%	29%	21%	23%	11%	17%	21%	8%	0
2. English Literature									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	11	1	1	5	3	0	1	0	0
Number Planning New Programs	19	1	3	9	3	0	0	3	0
Sum: New and Expanding	30	2	4	14	6	0	1	3	0
Sum as percent of Total	20%	29%	17%	36%	13%	0	7%	25%	0
3. Foreign Languages									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	8	0	0	4	1	0	2	1	0
Number Planning New Programs	21	1	5	8	3	0	2	1	1
Sum: New and Expanding	29	1	5	12	4	0	4	2	1
Sum as percent of Total	20%	14%	21%	31%	9%	0	29%	17%	50%

*The classification of institutions into four groups is described in Appendix I.

APPENDIX 2
(continued)

Expected Growth in Graduate Programs In Arts and Sciences, 1965 to 1980

Academic Areas	Number and Percentage Distributions								
		Public Institutions*				Private Institutions*			
	Totals	A	B	C	D	A	B	C	D
4. Music									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	4	0	1	2	1	0	0	0	0
Number Planning New Programs	18	0	3	8	3	0	2	1	1
Sum: New and Expanding	22	0	4	10	4	0	2	1	1
Sum as percent of Total	15%	0	17%	26%	9%	0	14%	8%	50%
5. Philosophy									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	5	0	1	2	0	0	1	1	0
Number Planning New Programs	13	0	2	6	2	1	0	2	0
Sum: New and Expanding	18	0	3	8	2	1	1	3	0
Sum as percent of Total	12%	0	13%	21%	6%	17%	7%	25%	0
6. Speech and Drama									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	5	1	2	2	0	0	0	0	0
Number Planning New Programs	9	1	4	2	1	0	1	0	0
Sum: New and Expanding	14	2	6	4	1	0	1	0	0
Sum as percent of Total	9%	29%	25%	10%	2%	0	7%	0	0

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 2
(continued)

Expected Growth in Graduate Programs in Arts and Sciences, 1965 to 1980

Academic Areas	Number and Percentage Distributions								
		Public Institutions*				Private Institutions*			
	Totals	A	B	C	D	A	B	C	D
Social Sciences									
7. Anthropology									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	8	1	2	1	1	3	0	0	0
Number Planning New Programs	19	2	4	6	3	1	1	2	0
Sum: New and Expanding	27	3	6	7	4	4	1	2	0
Sum as percent of Total	18%	43%	25%	18%	9%	67%	7%	17%	0
8. Economics									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	5	0	1	1	1	0	2	0	0
Number Planning New Programs	13	1	7	3	0	0	0	2	0
Sum: New and Expanding	18	1	8	4	1	0	2	2	0
Sum as percent of Total	12%	14%	33%	11%	2%	0	14%	17%	0
9. History									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	8	3	0	3	2	0	0	0	0
Number Planning New Programs	32	2	6	14	4	0	2	4	0
Sum: New and Expanding	40	5	6	17	6	0	2	4	0
Sum as percent of Total	27%	72%	25%	44%	13%	0	14%	33%	0

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 2
(continued)

Expected Growth in Graduate Programs in Arts and Sciences, 1965 to 1980

Academic Areas	Number and Percentage Distributions								
		Public Institutions*				Private Institutions*			
	Totals	A	B	C	D	A	B	C	D
10. Political Science									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Institutions	6	2	1	1	0	1	0	1	0
Number Planning New Programs	17	1	2	9	2	0	0	3	0
Sum: New and Expanding	23	3	3	10	2	1	0	4	0
Sum as percent of Total	15%	43%	13%	26%	4%	16%	0	33%	0
11. Psychology									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	9	0	2	1	1	1	2	2	0
Number Planning New Programs	17	1	3	8	4	0	0	1	0
Sum: New and Expanding	26	1	5	9	5	1	2	3	0
Sum as percent of Total	18%	14%	21%	23%	11%	17%	14%	25%	0
12. Sociology									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	11	2	1	2	0	0	3	3	0
Number Planning New Programs	22	1	3	12	4	0	1	1	0
Sum: New and Expanding	33	3	4	14	4	0	4	4	0
Sum as percent of Total	22%	43%	17%	37%	9%	0	29%	33%	0

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 2
(continued)

Expected Growth in Graduate Programs in Arts and Sciences, 1965 to 1980

Academic Areas	Number and Percentage Distributions								
	Totals	Public Institutions*				Private Institutions*			
		A	B	C	D	A	B	C	D
Physical Sciences									
13. Chemistry									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	23	5	4	6	4	0	2	1	1
Number Planning New Programs	24	3	2	5	8	0	1	5	0
Sum: New and Expanding	47	8	6	11	12	0	3	6	1
Sum as percent of Total	32%	114%	25%	28%	27%	0	21%	50%	50%
14. Computer Science									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	7	1	3	2	0	0	0	1	0
Number Planning New Programs	22	4	9	4	2	1	1	1	0
Sum: New and Expanding	29	5	12	6	2	1	1	2	0
Sum as percent of Total	20%	72%	50%	15%	4%	17%	7%	17%	0
15. Earth Sciences									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	6	1	2	2	0	1	0	0	0
Number Planning New Programs	13	1	3	7	2	0	0	0	0
Sum: New and Expanding	19	2	5	9	2	1	0	0	0
Sum as percent of Total	13%	28%	21%	23%	44%	17%	0	0	0

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 2
(continued)

Expected Growth in Graduate Programs in Arts and Sciences, 1965 to 1980

Academic Areas	Number and Percentage Distributions								
		Public Institutions*				Private Institutions*			
	Totals	A	B	C	D	A	B	C	D
16. Mathematics									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	9	1	2	2	0	0	1	2	0
Number Planning New Programs	25	1	4	9	7	0	2	2	0
Sum: New and Expanding	34	2	6	11	7	0	3	4	0
Sum as percent of Total	23%	28%	25%	28%	16%	0	21%	33%	0
17. Physics									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	16	4	4	3	2	0	2	1	0
Number Planning New Programs	21	1	3	8	5	0	1	3	0
Sum: New and Expanding	37	5	7	11	7	0	3	4	0
Sum as percent of Total	25%	72%	29%	28%	16%	0	21%	33%	0
18. Space Sciences									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	4	0	1	1	0	0	0	2	0
Number Planning New Programs	5	1	0	2	1	1	0	0	1
Sum: New and Expanding	9	1	1	3	1	1	0	2	0
Sum as percent of Total	6%	14%	4%	8%	2%	17%	0	17%	0

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 2
(continued)
Expected Growth in Graduate Programs in Arts and Sciences, 1965 to 1980

Academic Areas	Number and Percentage Distributions								
		Public Institutions*				Private Institutions*			
	Totals	A	B	C	D	A	B	C	D
Interdisciplinary (continued)									
25. Oceanography									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	6	1	0	4	0	0	0	0	1
Number Planning New Programs	36	2	0	20	7	1	1	5	0
Sum: New and Expanding	42	3	0	24	7	1	1	5	1
Sum as percent of Total	28%	43%	0	62%	16%	17%	7%	42%	50%
26. Miscellaneous Interdisciplinary									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	0	0	0	0	0	0	0	0	0
Number Planning New Programs	33	3	8	11	3	2	3	3	0
Sum: New and Expanding	33	3	8	11	3	2	3	3	0
Sum as percent of Total	22%	43%	33%	28%	7%	33%	21%	25%	0

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 2
(continued)

Expected Growth in Graduate Programs in Arts and Sciences, 1965 to 1980

Academic Areas	Number and Percentage Distributions								
	Totals	Public Institutions*				Private Institutions*			
		A	B	C	D	A	B	C	D
16. Mathematics									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	9	1	2	2	0	0	1	2	0
Number Planning New Programs	25	1	4	9	7	0	2	2	0
Sum: New and Expanding	34	2	6	11	7	0	3	4	0
Sum as percent of Total	23%	28%	25%	28%	16%	0	21%	33%	0
17. Physics									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	16	4	4	3	2	0	2	1	0
Number Planning New Programs	21	1	3	8	5	0	1	3	0
Sum: New and Expanding	37	5	7	11	7	0	3	4	0
Sum as percent of Total	25%	72%	29%	28%	16%	0	21%	33%	0
18. Space Sciences									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	4	0	1	1	0	0	0	2	0
Number Planning New Programs	5	1	0	2	1	1	0	0	1
Sum: New and Expanding	9	1	1	3	1	1	0	2	0
Sum as percent of Total	6%	14%	4%	8%	2%	17%	0	17%	0

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 3

Expected Growth In Programs For Professional Preparation, 1965 to 1980

Profession	Number and Percentage Distributions								
		Public Institutions				Private Institutions			
	Totals	A	B	C	D	A	B	C	D
1. Agriculture									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansion	2	1	1	0	0	0	0	0	0
Number Planning New Programs	5	0	0	4	1	0	0	0	0
Sum: New and Expanding	7	1	1	4	1	0	0	0	0
Sum as Percent of Total	5%	14%	4%	10%	2%	0	0	0	0
2. Architecture									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	1	0	0	0	1	0	0	0	0
Number Planning New Programs	16	1	3	4	4	1	3	0	0
Sum: New and Expanding	17	1	3	4	5	1	3	0	0
Sum as Percent of Total	11%	14%	13%	10%	11%	17%	21%	0	0
3. Business									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	18	0	3	5	4	1	3	2	0
Number Planning New Programs	38	1	0	16	12	0	6	2	1
Sum: New and Expanding	56	1	3	21	16	1	9	4	1
Sum as Percent of Total	37%	14%	13%	53%	35%	17%	64%	33%	50%

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 3
(continued)

Expected Growth In Programs For Professional Preparation, 1965 to 1980

Profession	Number and Percentage Distributions								
		Public Institutions				Private Institutions			
	Totals	A	B	C	D	A	B	C	D
4. Dentistry									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Expansions	1	0	0	1	0	0	0	0	0
Number Planning New Programs	14	1	4	4	1	0	3	1	0
Sum: New and Expanding	15	1	4	5	1	0	3	1	0
Sum as Percent of Total	10%	14%	17%	13%	2%	0	21%	8%	0
5. Education									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	30	2	6	11	7	0	2	1	1
Number Planning New Programs	38	2	1	17	11	1	2	4	0
Sum: New and Expanding	68	4	7	28	18	1	4	5	1
Sum as Percent of Total	46%	57%	29%	72%	40%	17%	29%	42%	50%
6. Engineering									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	32	3	5	9	5	2	4	5	0
Number Planning New Programs	49	2	7	15	16	4	3	2	0
Sum: New and Expanding	81	5	12	24	20	6	7	7	0
Sum as Percent of Total	54%	71%	50%	62%	44%	100%	50%	58%	0

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 3
(continued)
Expected Growth In Programs For Professional Preparation, 1965 to 1980

Profession	Number and Percentage Distributions								
		Public Institutions				Private Institutions			
	Totals	A	B	C	C	A	B	C	D
7. Home Economics									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	1	0	0	1	0	0	0	0	0
Number Planning New Programs	5	0	0	3	2	0	0	0	0
Sum: New and Expanding	6	0	0	4	2	0	0	0	0
Sum as Percent of Total	4%	0	0	10%	4%	0	0	0	0
8. Journalism									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	0	0	0	0	0	0	0	0	0
Number Planning New Programs	9	0	1	3	3	0	1	1	0
Sum: New and Expanding	9	0	1	3	3	0	1	1	0
Sum as Percent of Total	6%	0	4%	11%	7%	0	7%	8%	0
9. Law									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	10	0	2	3	1	1	3	0	0
Number Planning New Programs	19	1	2	9	3	0	3	1	0
Sum: New and Expanding	29	1	4	12	4	1	6	1	0
Sum as Percent of Total	19%	14%	17%	31%	9%	17%	43%	8%	0

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 3
(continued)

Expected Growth In Programs For Professional Preparation, 1965 to 1980

Profession		Number and Percentage Distributions							
		Public Institutions				Private Institutions			
	Totals	A	B	C	D	A	B	C	D
10. Librarianship									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	0	0	0	0	0	0	0	0	0
Number Planning New Programs	16	0	1	12	2	0	1	0	0
Sum: New and Expanding	16	0	1	12	2	0	1	0	0
Sum as Percent of Total	11%	0	4%	31%	4%	0	7%	0	0
11. Medicine									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	7	1	0	2	0	1	2	1	0
Number Planning New Programs	43	1	7	18	8	2	6	1	0
Sum: New and Expanding	50	2	7	20	8	3	8	2	0
Sum as Percent of Total	34%	29%	29%	51%	18%	50%	57%	17%	0
12. Nursing									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	7	0	0	2	1	1	1	2	0
Number Planning New Programs	21	0	3	10	16	0	2	0	0
Sum: New and Expanding	28	0	3	12	17	1	3	2	0
Sum as Percent of Total	19%	0	13%	31%	38%	17%	21%	17%	0

*The classification of institutions into four groups is described in Appendix 1.

APPENDIX 3
(continued)

Expected Growth In Programs For Professional Preparation, 1965 to 1980

Profession		Number and Percentage Distributions							
		Public Institutions				Private Institutions			
	Totals	A	B	C	D	A	B	C	D
13. Pharmacy									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	3	0	1	1	0	0	0	1	0
Number Planning New Programs	5	0	2	2	1	0	0	0	0
Sum: New and Expanding	8	0	3	3	1	0	0	1	0
Sum as Percent of Total	5%	0	13%	8%	2%	0	0	8%	0
14. Social Work									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	7	1	1	1	2	0	0	2	0
Number Planning New Programs	16	0	2	7	5	0	2	0	0
Sum: New and Expanding	23	1	3	8	7	0	2	2	0
Sum as Percent of Total	15%	14%	13%	21%	16%	0	14%	17%	0
15. Veterinary Medicine									
Total Number of Institutions	149	7	24	39	45	6	14	12	2
Number Planning Expansions	2	1	0	1	0	0	0	0	0
Number Planning New Programs	9	0	4	4	1	0	0	0	0
Sum: New and Expanding	11	1	4	5	1	0	0	0	0
Sum as Percent of Total	7%	14%	17%	13%	2%	0	0	0	0

*The classification of institutions into four groups is described in Appendix 1.

Exhibit 1

LIST OF INTERVIEWERS

Lewis B. Mayhew, Director of Interviewing Team
Professor of Education
Stanford University

Robert A. Chapman
Research Assistant
Stanford University

Robert A. Ellis
Director, Center for Research in Occupational Planning
University of Oregon

James L. Fisher
Executive Assistant to the President
Illinois State University

Melvene D. Hardee
Professor of Higher Education
Florida State University

Peggy Heim
Associate Secretary and Economist
American Association of University Professors

Leslie F. Malpass
Dean, College of Arts and Sciences
Virginia Polytechnic Institute

Edwin P. Martin
Dean, College of Basic Studies
University of South Florida

James W. Reynolds
Professor and Consultant, Junior College Education
University of Texas

H. Bradley Sagen
Associate Professor, Higher Education
The University of Iowa

William K. Selden
Former Executive Secretary
National Commission of Accrediting

Exhibit 1

LIST OF INTERVIEWERS
(continued)

Seymour A. Smith
President
Stephens College

Clifford Stewart
Director of Institutional Research
Claremont University Center and Claremont Graduate School

Willis L. Tompkins
Academic Vice President
Kansas State College at Pittsburgh

Sharvy G. Umbeck
President
Knox College

Exhibit 2

Persons Interviewed

NEW ENGLAND

Brandeis University
- Mr. Clarence Q. Berger, Dean of University Planning and Development
- Dr. Peter Diamandopoulos, Dean of Arts and Sciences

Massachusetts Institute of Technology
- Dr. Irwin W. Sizer, Dean of the Graduate School

Yale University
- Dr. Charles H. Taylor, Jr., Provost
- Dr. John Perry Miller, Dean of the Graduate School
- Dr. Frederick C. Redlich, Dean, School of Medicine

Boston University
- Mr. Kurt M. Hertzfeld, Vice President for Finance
- Dr. Philip E. Kubzansky, Acting Dean of the Graduate School
- Dr. Jack R. Childress, Dean, School of Education

Brown University
- Dr. Ray L. Heffner, President
- Dr. Merton P. Stoltz, Provost
- Dr. Michael J. Brennan, Dean of the Graduate School
- Dr. R. Bruce Lindsay, Hazard Professor of Physics

University of Connecticut
- Mr. John M. Evans, Vice President of Finance
- Dr. Nathan L. Whetten, Dean of the Graduate School
- Dr. C. A. Kind, Associate Dean, College of Liberal Arts and Sciences

University of Maine
- Dr. Edwin Young, President
- Dr. Franklin P. Eggert, Dean of the Graduate School
- Dr. Mark R. Shibles, Dean, College of Education
- Dr. Thomas H. Curry, Dean, College of Technology

NEW ENGLAND (continued)

University of Massachusetts

Dr. John W. Lederle, President
Dr. Edward C. Moore, Dean of the Graduate School
Dr. I. Moyer Huntsberger, College of Arts and Sciences

University of New Hampshire

Dr. John W. McConnell, President
Dr. Robert F. Barlow, Academic Vice President
Dr. Norman W. Myers, Vice President and Treasurer
Dr. William H. Drew, Acting Dean of the Graduate School

Northeastern University

Dr. Arthur A. Vernon, Dean of the Graduate Division
Dr. A. E. Fitzgerald, Dean of Faculty
Dr. T. J. O'Toole, Dean, College of Law
Dr. Catherine Allen, Dean,Boston Bouve College
Dr. F. E. Truesdale, Assistant Dean, Lincoln College
Dr. E. J. McTernan, Chairman, Allied Health Programs

University of Rhode Island

Dr. Francis H. Horn, President
Dr. Robert C. Spencer, Dean of the Graduate School

MIDDLE ATLANTIC

Carnegie Mellon University

Dr. H. Guyford Stever, President
Dr. Edward R. Schatz, Vice President for Academic Affairs
Dr. Richard M. Cyert, Dean, Graduate School of Industrial Administration
Dr. Robert C. Slack, Head, Department of Humanities
Dr. William W. Mullins, Head, Department of Metallurgy and Materials Science
Dr. Allen F. Strehler, Associate Dean of Graduate Studies

Princeton University

Dr. Robert F. Goheen, President
Mr. Ricardo A. Mestres, Financial Vice President and Treasurer
Dr. Robert L. Geddes, Dean, School of Architecture
Dr. Joseph C. Elgin, Dean, School of Engineering and Applied Science

MIDDLE ATLANTIC (continued)

University of Rochester
Dr. S. D. S. Spragg, Dean of Graduate Studies
Mr. Robert W. France, Associate Provost
Dr. Herbert R. Morgan, Chairman, Department of Microbiology

Rockefeller University
Dr. Detlev W. Bronk, President
Dr. Carl Pfaffmann, Vice President
Mr. W. E. Dietz, Assistant Treasurer

Rutgers, The State University
Dr. Mason W. Gross, President
Dr. Henry C. Torrey, Dean of the Graduate School and Director of Research Council
Mr. Neal Harlow, Dean, Graduate School of Library Service

Syracuse University
Dr. Frank P. Piskor, Academic Vice President and Acting Graduate Dean
Dr. James Harrison, Executive Assistant to the Dean of Graduate Studies
Mr. Allan Splite, Assistant to the Vice President

City University of New York
Dr. Albert H. Bowker, Chancellor
Dr. Mina S. Rees, Dean, Graduate Studies
Dr. E. K. Fretwell, Dean of Academic Development
Mr. Elvis Eckles, Coordinator of the Master Plan
Mr. Hyman Kublin, Associate Dean of Graduate Studies

New York University
Dr. Allan M. Cartter, Chancellor and Executive Vice President
Dr. Peter L. Agnew, Vice President of Business Affairs
Dr. George W. Stone, Jr., Dean, Graduate School of Arts and Sciences
Dr. Clifford D. Clark, Associate Dean, Graduate School of Business Administration
Mr. James I. Doi, Director of Institutional Research

Rensselaer Polytechnic Institute
Dr. Richard G. Folsom, President
Dr. Clayton O. Dohrenwend, Vice President
Dr. Stephen E. Wiberley, Dean of the Graduate School
Mr. John A. Dunlop, Registrar
Mr. Philip H. Tyrell, Director, Office of Institutional Research
Mr. Dennis Jones, Assistant to the Vice President

MIDDLE ATLANTIC (continued)

Mt. Sinai School of Medicine of the City University of New York
Dr. George James, Dean

SUNY at Albany
Dr. Evan R. Collins, President

SUNY at Binghamton
Dr. Bruce Dearing, President
Dr. Marc V. Bodine, Jr., Associate Professor of Geology

SUNY at Buffalo
Dr. Martin Meyerson, President
Dr. Peter F. Regan, III, Vice President
Dr. Fred Snell, Dean of the Graduate School

SUNY at Stony Brook
Dr. John S. Toll, President
Dr. E. D. Pellegrino, Director of the Medical Center
Dr. T. A. Pond, Chairman, Department of Physics
Mr. William E. Moran, Assistant to the President

SOUTH ATLANTIC

Catholic University of America
Rt. Rev. J. B. McAllister, Vice Rector for Administrative Affairs
Rev. Farlin Trisco, Vice Rector for Academic Affairs
Dr. James P. O'Connor, Dean, Graduate School of Arts and Sciences
Rt. Rev. J. A. Magner, Assistant Treasurer
Mr. Jose Baquero, Director of International Education
Dr. Frank A. Biberstein, Head, Department of Civil Engineering

Duke University
Dr. R. Taylor Cole, Provost
Mr. Frank L. Ashmore, Vice President for Institutional Advancement
Dr. James L. Meriam, Dean, School of Engineering
Dr. William G. Anlyan, Dean, School of Medicine

Emory University
Mr. G. Speights Ballard, Associate Director of Development

University of Florida
Mr. Robert B. Mautz, Vice President for Academic Affairs
Dr. Linton E. Grinter, Dean of the Graduate School
Dr. Donald J. Hart, Dean, College of Business Administration
Dr. Leonard S. Powers, Associate Dean, College of Law
Dr. Melvin C. Baker, Assistant Dean, College of Education
Mr. Thomas N. Wells, Assistant Business Manager

SOUTH ATLANTIC (continued)

George Washington University
Mr. William David Johnson, Controller
Dr. Frank N. Miller, Associate Dean of the Medical Center

Johns Hopkins University
Mr. Bruce J. Partridge, Administrative Vice President
Dr. Allyn W. Kimball, Dean, College of Arts and Sciences
Dr. Francis O. Wilcox, Dean, School of Advanced Internal Studies
Dr. Thomas B. Turner, Dean, School of Medicine
Mr. Ronald A. Wolk, Assistant to the President

University of Maryland
Dr. R. Lee Hornbake, Vice President for Academic Affairs
Dr. Ronald Bamford, Dean of the Graduate School
Dr. Charles Manning, Dean, College of Arts and Sciences

University of Miami
Dr. John A. Harrison, Dean of the Graduate School
Dr. John R. Beery, Dean, School of Education
Dr. Edwin F. Iversen, Associate Professor of Marine Biology
Dr. Eugene H. Man, Coordinator of Research
Mr. William F. McLaughlin, Business Manager

University of North Carolina at Chapel Hill
Dr. William Friday, President
Dr. William Wells, Vice President of Academic Affairs
Dr. Arnold K. King, Professor of Education and Vice President of Institutional Studies

University of Virginia
Dr. Frank L. Hereford, Provost
Dr. Edward E. Younger, Dean, Graduate School of Arts and Sciences
Mr. Joseph N. Bosserman, Dean, School of Architecture
Dr. Ralph W. Cherry, Dean, School of Education
Dr. Hardy C. Dillard, Dean, School of Law
Dr. Kenneth R. Crispell, Dean, School of Medicine
Dr. Mary M. Lohr, Dean, School of Nursing
Mr. Grant L. Dunlap, Assistant Dean, Graduate School of Business Administration
Mr. William H. Caven, Assistant Professor, School of Commerce
Mr. John R. Henderson, Assistant to the Controller

East Carolina State College at Greenville
Mr. F. D. Duncan, Vice President-Business Manager
Dr. Robert W. Williams, Dean of Academic Affairs

SOUTH ATLANTIC (continued)

East Carolina College at Greenville (continued)
- Dr. John Reynolds, Dean of the Graduate School
- Dr. Elmer R. Browning, Dean, School of Business
- Mr. J. W. Batten, Associate Dean, School of Education

Florida Atlantic University
- Dr. Palmer C. Pilcher, Academic Dean
- Dr. Stanley E. Wimberly, Dean, Social Sciences
- Mr. Wilbur Benson, Assistant Dean, College of Business Administration
- Dr. Vincent R. Saurino, Assistant Dean, Sciences
- Mr. Harvey K. Meyer, Director of Research and Experimental Teaching-Learning Resources

Florida State University
- Dr. H. Odell Waldby, Assistant Vice President for Academic Affairs
- Dr. Thomas R. Lewis, Dean of the Graduate School
- Dr. E. L. Chalmers, Jr., Dean, College of Arts and Sciences
- Mr. Charles A. Rovetta, Dean, School of Business
- Dr. Mode L. Stone, Dean, School of Education
- Dr. Mason Ladd, Dean, School of Law
- Dr. Robert N. Willis, Director of Academic Research and Planning

University of North Carolina at Charlotte
- Dr. Seth Ellis, Assistant Dean of the College
- Dr. N. H. Barnette, Dean, College of Engineering
- Dr. W. D. Wubben, Chairman, Department of Economics and Business Administration
- Dr. Philip Vairho, Area Representative, Department of Education
- Mr. Larry G. Owen, Director of Institutional Research

University of North Carolina at Greensboro
- Mr. Mereb E. Mossman, Dean of the Faculty
- Dr. John W. Kennedy, Dean of the Graduate School
- Mr. H. L. Ferguson, Jr., Business Manager
- Dr. Eloise R. Lewis, Dean, School of Nursing

North Carolina State University at Raleigh
- Dr. H. C. Kelly, Dean of the Faculty
- Dr. W. J. Peterson, Dean of the Graduate School
- Dr. Robert G. Carson, Associate Dean of Engineering
- Dr. Wesley O. Doggett, Assistant Dean, Physical Sciences and Applied Mathematics
- Dr. Edward W. Glazener, Assistant Dean and Director of Instruction, Agriculture and Life Sciences

SOUTH ATLANTIC (continued)

University of South Florida

- Dr. Harris W. Dean, Dean of Academic Affairs
- Mr. Robert L. Dennard, Dean of Administration and Business Manager
- Dr. R. S. Cline, Dean, College of Business Administration
- Dr. Jean A. Battle, Dean, College of Education
- Mr. Edgar W. Kopp, Dean, College of Engineering
- Mr. T. Wayne Keene, Director, Planning and Analysis Division

Virginia Polytechnic Institute

- Dr. T. Marshall Hahn, Jr., President
- Dr. Warren W. Brandt, Vice President
- Dr. Fred W. Bull, Dean of the Graduate School
- Dr. Leslie F. Malpass, Dean, College of Arts and Sciences
- Dr. Charles Burchard, Dean, College of Architecture
- Dr. Herbert H. Mitchell, Dean, College of Business
- Dr. Willis G. Worcester, Dean, College of Engineering
- Dr. Laura Harper, Dean, College of Home Economics
- Mr. T. S. Horme, Associate Dean of Instruction
- Mr. Carl A. Renfroe, Jr., Assistant Professor of Chemical Engineering

University of West Florida

- Dr. Paul K. Vonk, Vice President of Academic Affairs
- Mr. Philip Reagan, Provost
- Dr. F. J. Wooden, Dean, School of Education

EAST NORTH CENTRAL

University of Illinois

- Dr. Lyle H. Lanier, Executive Vice President and Provost
- Dr. Earl W. Porter, Secretary, Board of Trustees, and Secretary of the University
- Dr. Daniel Alpert, Dean of the Graduate College
- Dr. William N. Everett, Dean, College of Engineering
- Dr. David Pines, Director, Center for Advanced Studies

Indiana University

- Dr. Joseph L. Sutton, Vice President and Dean of Faculties
- Dr. Harrison Shull, Dean of the Graduate School
- Dr. Byrum E. Carter, Dean, College of Arts and Sciences

EAST NORTH CENTRAL (continued)

Indiana University (continued)
Dr. Edley Martin, Dean, College of Business
Dr. Roger W. Russell, Dean, Division of Advanced Studies
Mr. Lee Hull, Director of Institutional Research

University of Michigan
Mr. Allan F. Smith, Vice President for Academic Affairs
Dr. Stephen H. Spurr, Dean, School of Graduate Studies, and Dean, School of Natural Resources

Northwestern University
Dr. Payson S. Wild, Vice President and Dean of Faculties
Dr. Robert H. Baker, Dean of the Graduate School
Dr. Robert H. Strotz, Dean, College of Arts and Sciences
Dr. B. J. Chandler, Dean, School of Education
Dr. John A. D. Cooper, Dean of Sciences
Mr. Jeremy R. Wilson, Director, Office of Planning and Development

Ohio State University
Dr. Novice G. Faucett, President
Dr. John E. Corbally, Jr., Vice President for Administration
Dr. Richard Armitage, Dean of the Graduate School

University of Wisconsin - Madison Campus
Dr. Fred H. Harrington, President
Dr. J. W. Cleary, Vice Chancellor for Academic Affairs
Dr. Robert M. Bock, Dean of the Graduate School
Dr. Glen S. Pound, Dean, College of Agriculture
Dr. L. D. Epstein, Dean, College of Letters and Science
Dr. W. Rudin, Associate Dean
Dr. B. E. Kearl, Associate Dean
Mr. Donald E. Percy, Assistant to the Vice President

University of Akron
Dr. Norman P. Auburn, President
Mr. Carl S. Hall, Controller and Treasurer
Dr. Ernest H. Cherrington, Dean of the Graduate College
Dr. H. Kenneth Barker, Dean, College of Education
Dr. Michael J. Rzasa, Dean, College of Engineering
Dr. Stanley A. Samad, Dean, College of Law

EAST NORTH CENTRAL (continued)

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- Dr. Paul F. Leedy, Provost
- Mr. Gene A. Hessey, Assistant Treasurer
- Mr. Paul R. Nuser, Assistant Business Manager
- Mr. M. Hawley Smith, Assistant to the President for Special Projects
- Mr. Donald C. Lelong, Director of Institutional Research and Planning
- Mr. Richard C. Newman, Director of Computational Services

Case Western Reserve University
- Dr. Robert W. Morse, President
- Dr. Alan R. Moritz, Provost
- Dr. John S. Diekhoff, Vice Provost
- Dr. Harry R. Nara, Vice Provost
- Dr. Robert H. Thomas, Vice Provost and Director of Research Administration
- Dr. Allen C. Moore, Director, Office of Research
- Dr. Frank H. Hurley, Dean, College of Arts and Sciences

University of Cincinnati
- Dr. Campbell Crockett, Dean of the Graduate School

Cleveland State University
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- Dr. James G. Miller, Vice President of Academic Affairs

Illinois Institute of Technology
- Dr. James J. Brophy, Academic Vice President
- Dr. Arthur Grad, Dean of the Graduate School and Director of Research
- Dr. Ralph G. Owens, Dean, College of Engineering and Physical Sciences

University of Illinois - Chicago Circle Campus
- Dr. Robert W. French, Acting Dean, College of Business Administration
- Dr. Rupert M. Price, Acting Dean, College of Engineering
- Dr. Glen Terrell, Jr., Dean of Faculties
- Dr. Robert W. Rogers, Dean, College of Liberal Arts and Sciences
- Dr. George Hendrick, Assistant Dean, Graduate College
- Mr. Sheldon L. Fordham, Director of Physical Education and Athletics

EAST NORTH CENTRAL (continued)

Miami University
- Dr. Charles R. Wilson, Provost-Vice President for Academic Affairs
- Dr. Lloyd A. Goggin, Treasurer and Vice President for Business and Finance
- Dr. H. B. Wright, Dean of the Graduate School

Michigan State University
- Dr. Milton E. Muelder, Vice President of Research and Development and Dean, School of Advanced Graduate Studies
- Dr. Paul L. Dressel, Assistant Provost and Director of Institutional Research

Northern Illinois University
- Dr. Francis R. Geigle, Executive Vice President and Provost
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University of Toledo
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- Dr. William H. Leckie, Dean of the Graduate School
- Dr. Jerome W. Kloucek, Dean, College of Arts and Sciences
- Dr. Newton C. Rochte, Dean, Community and Technical College
- Dr. Richard R. Perry, Director of Institutional Research
- Dr. John H. Russell, Director of Planning
- Dr. K. C. DeGood, Associate Dean, College of Education

Wayne State University
- Dr. Winfred A. Harbison, Vice President for Academic Administration
- Dr. Joseph E. Hill, Associate Dean for Graduate Studies
- Mr. R. Hubbard, Director, Institutional Research
- Dr. E. J. Forsythe, Assistant to the President
- Mr. J. L. Kirks, Assistant Director of Institutional Studies

Wright State University
- Dr. Brage Golding, President
- Mr. Fred White, Business Manager
- Dr. W. H. Abraham, Dean of Continuing Education
- Dr. J. B. Black, Dean, Division of Business Administration
- Dr. Philip Bordinat, Dean, Division of Liberal Arts
- Dr. F. N. Marquis, Dean, Division of Education
- Dr. Jack A. Redden, Acting Dean, Science and Engineering Division

EAST NORTH CENTRAL (continued)

University of Wisconsin - Milwaukee

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Dr. Karl E. Krill, Dean of the Graduate School
Mr. Philip C. Rosenthal, Dean, Applied Science and Engineering
Dr. C. Edward Weber, Dean, School of Business Administration
Dr. Quentin F. Schenk, Dean, School of Social Welfare

WEST NORTH CENTRAL

University of Iowa

Dr. Howard R. Bowen, President
Dr. Willard L. Boyd, Academic Vice President
Dr. Duane C. Spriestersbach, Dean of the Graduate College
Dr. Hunter Rouse, Dean, College of Engineering
Dr. Laura C. Dustan, Dean, College of Nursing
Dr. Daniel Stone, Associate Dean, College of Medicine

University of Minnesota

Dr. O. Meredith Wilson, President
Dr. William G. Shepherd, Vice President of Academic Administration
Dr. F. M. Boddy, Assistant Dean of the Graduate School

University of Missouri - Columbia

Dr. John W. Schwada, Chancellor
Dr. C. Edmund Marshall, Dean of the Graduate School
Dr. Burnell W. Kingrey, Dean, School of Veterinary Medicine
Dr. Vernon E. Wilson, Consultant to the President on Medical Affairs and Director of Health Affairs
Mr. Emmett Klinkerman, Business Manager

University of Nebraska

Dr. Clifford M. Hardin, Chancellor
Dr. Merk Hobson, Vice Chancellor and Dean of Faculties
Dr. James C. Olson, Dean of the Graduate College
Dr. Walter K. Beggs, Dean, College of Education
Dr. John R. Davis, Dean, College of Engineering and Architecture
Dr. Harry S. Allen, Director of Institutional Research

Washington University

Dr. George W. Hazzard, Vice Chancellor for Professional Schools
Dr. George E. Pake, Provost
Dr. Merle Kling, Dean, School of Arts and Sciences

WEST NORTH CENTRAL (continued)

Kansas State University

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Dr. C. Clyde Jones, Vice President for University Development
Dr. William H. Coffield, Dean, College of Education
Dr. Paul E. Russell, Dean, College of Engineering
Dr. Charles E. Cornelius, Dean, College of Veterinary Medicine
Dr. John P. Noonan, Associate Dean of the Graduate School
Mr. Daniel D. Beatty, Business Manager
Mr. Donald E. Foster, Assistant to the Director of Records

Iowa State University - Ames

Dr. W. Robert Parks, President
Dr. George C. Christensen, Academic Vice President
Dr. J. Boyd Page, Dean of the Graduate College
Dr. Ralph L. Kitchell, Dean, College of Veterinary Medicine
Dr. Paul Morgan, Assistant Dean, College of Engineering
Dr. Virgil Lagomarcino, Director, Teacher Education

University of Missouri - Kansas City

Dr. Randall M. Whaley, Chancellor
Dr. John G. Dowgray, Jr., Dean of Faculties
Dr. Jack D. Heysinger, Dean, School of Business and Public Administration
Dr. H. B. G. Robinson, Dean, School of Dentistry
Mr. Eugene C. Bryant, Special Assistant to the Chancellor for Institutional Studies

University of Missouri - St. Louis

Dr. James L. Bugg, Jr., Chancellor
Dr. Glen R. Driscoll, Dean, College of Arts and Sciences

WEST SOUTH CENTRAL

University of Arkansas

Dr. David W. Mullins, President
Dr. Virgil W. Adkisson, Academic Vice President and Dean of the Graduate School
Dr. Glenn W. Hardy, Dean, College of Agriculture and Home Economics
Dr. Merwyn Bridenstine, Acting Dean, College of Business Administration
Dr. G. F. Branigan, Dean, College of Engineering
Dr. Robert Max Roelfs, Assistant Dean, College of Education
Dr. George L. B. Pratt, Director of Institutional Research

WEST SOUTH CENTRAL (continued)

Louisiana State University Medical Center at New Orleans
- Dr. William W. Frye, Chancellor
- Dr. John C. Finerty, Dean of Medicine
- Dr. R. A. Coulson, Associate Dean, Graduate School of the Medical Center
- Dr. G. John Budding, Head, Department of Microbiology

University of Oklahoma
- Dr. G. L. Cross, President
- Dr. P. K. McCarter, Vice President
- Dr. Horace B. Brown, Vice President for Business and Finance
- Dr. Carl D. Riggs, Dean of the Graduate College
- Dr. Gene M. Nordby, Dean, College of Engineering
- Dr. Eugene O. Kuntz, Dean, College of Law
- Dr. L. E. Harris, Dean, College of Pharmacy

Rice University
- Dr. George H. Richter, Dean of Graduate Studies
- Mr. Michael V. McEnany, Dean of Undergraduate Affairs
- Miss Sharon R. Robinson, Assistant to the Registrar

Tulane University
- Dr. Herbert E. Longenecker, President
- Dr. D. R. Deener, Dean of the Graduate School
- Mr. Fred M. Southerland, Assistant Dean, School of Social Work
- Dr. Lee H. Johnson, Dean, School of Engineering
- Dr. Clinton A. Phillips, Associate Dean, Graduate School of Business

University of Houston
- Dr. R. Balfour Daniels, Dean of the Graduate School
- Dr. Ted R. Brannen, Dean, College of Business Administration
- Dr. Robert D. Howsam, Dean, College of Education

Louisiana State University at New Orleans
- Dr. George C. Branam, Dean of Academic Affairs
- Dr. Donald G. Davis, Dean of the Graduate School

Louisiana State University at Shreveport
- Dr. Donald E. Shipp, Dean

Oklahoma State University
- Dr. Robert B. Kamm, President
- Dr. James H. Boggs, Academic Vice President

WEST SOUTH CENTRAL (continued)

Oklahoma State University (continued)

Mr. J. L. Sanderson, Business Manager
Dr. Norman Durham, Dean of the Graduate College
Dr. Richard W. Poole, Dean, College of Business
Dr. Helmer Sorenson, Dean, College of Education
Dr. Clark A. Dunn, Associate Dean, College of Engineering
Dr. William Mack Usher, Director of Institutional Research

Texas A & M University

Dr. Wayne C. Hall, Vice President of Academic Affairs and Dean of the Graduate College
Mr. Fred J. Benson, Dean, College of Engineering
Dr. Alvin A. Price, Dean, College of Veterinary Medicine
Dr. Edward J. Romieniec, Chairman, College of Architecture
Mr. H. L. Heaton, Registrar and Director of Admissions

University of Texas at Arlington (Arlington State College)

Dr. Wallace B. Nelson, Dean, School of Business
Dr. W. H. Nedderman, Dean, School of Engineering
Mr. Elwood J. Preiss, Registrar and Director of Admissions
Mr. J. M. Utterback, Budget and Reports Officer

University of Texas at El Paso

Dr. Charles L. Sonnichsen, Dean of the Graduate School
Mr. Oscar H. McMahan, Professor of Physics
Mr. Richard W. Burns, Director, Office of Institutional Studies
Mr. Eugene W. Green, Director of Personnel
Mr. Richard E. Canfield, Associate Business Manager

University of Texas Southwestern Medical School

Dr. Frank Harrison, Dean

EAST SOUTH CENTRAL

University of Tennessee at Knoxville

Dr. Andrew David Holt, President
Dr. Herman E. Spivey, Vice President
Dr. Hilton A. Smith, Vice President for Graduate Study and Research and Dean of the Graduate School
Dr. Charles H. Weaver, Dean, College of Engineering

EAST SOUTH CENTRAL (continued)

Vanderbilt University

Dr. Rob Roy Purdy, Senior Vice Chancellor
Dr. Robert T. Lagemann, Dean of the Graduate School
Dr. Emmett B. Fields, Dean, College of Arts and Sciences
Dr. Randolph Batson, Dean, School of Medicine
Dr. Paul Harrawood, Assistant Dean, School of Engineering
Dr. Harry O. Paxson, Director, Division for Sponsored Research and Grants

University of South Alabama

Dr. Frederick Palmer Whiddon, President
Dr. J. Howe Hadley, Dean, College of Education
Dr. Ralph M. Traxler, Jr., Dean, College of Business and Management Studies
Dr. William A. Hoppe, Assistant Dean, College of Arts and Sciences
Dr. Judson White, Director for Institutional Research

MOUNTAIN

Arizona State University

Dr. G. Homer Durham, President
Dr. William J. Burke, Vice President for Research and Dean of the Graduate College
Dr. Roy P. Doyle, Assistant Dean, College of Education
Dr. Richard N. Work, Assistant Dean, College of Liberal Arts
Mr. T. Tilman Crance, Assistant to the President for Budget and Institutional Studies
Mr. C. E. LaDue, Assistant to the Vice President of Business

University of Arizona

Dr. Bowen C. Dees, Vice President
Dr. Walter A. Delaplane, Academic Vice President
Dr. Herbert D. Rhodes, Dean of the Graduate School
Dr. Howard S. Coleman, Dean, College of Engineering
Dr. Francis A. Roy, Dean, College of Liberal Arts
Dr. Merlin R. Duval, Jr., Dean, College of Medicine
Dr. R. A. Crowell, Associate Dean, College of Education

MOUNTAIN (continued)

Brigham Young University
- Mr. Ben E. Lewis, Vice President in Charge of Auxiliary and Community Services
- Dr. Wesley P. Lloyd, Dean of the Graduate School
- Dr. Weldon J. Taylor, Dean, College of Business
- Dr. Clawson Y. Cannon, Jr., Acting Dean, College of Fine Arts
- Dr. Robert L. Egbert, Chairman, Department of Graduate Education
- Mr. Darrel J. Monson, Director, Communication Services

University of Colorado
- Dr. Eugene H. Wilson, Vice President for Business Affairs
- Dr. E. James Archer, Dean of the Graduate School
- Dr. William E. Briggs, Dean, College of Arts and Sciences
- Dr. Paul E. Jedamus, Director of Institutional Research
- Dr. David W. Talmadge, Associate Dean, Graduate Medical Center

University of Denver
- Dr. Wilbur C. Miller, Vice Chancellor
- Dr. Emil M. Sunley, Dean, Graduate School of Social Work
- Dr. Josef Korbel, Dean, Graduate School of International Relations
- Dr. Robert B. Yegge, Dean, College of Law

University of New Mexico
- Dr. Farrell Heady, Academic Vice President
- Dr. George P. Springer, Dean of the Graduate School
- Dr. Howard V. Finston, Dean, College of Business Administration
- Dr. Richard H. Clough, Dean, College of Engineering
- Dr. Morris S. Hendrickson, Director of Institutional Research
- Dr. Robert S. Stone, Associate Dean, School of Medicine

University of Utah
- Dr. Alfred C. Emery, Provost
- Dr. Brigham D. Madsen, Deputy Academic Vice President for International Programs
- Dr. M. Sterling McMurrin, Dean of the Graduate School
- Dr. Milton Voigt, Acting Dean, College of Letters and Science
- Dr. L. Dale Harris, Associate Dean of Engineering
- Dr. Osmond Harline, Director of Long-Range Planning

PACIFIC AND INSULAR

University of Alaska
- Dr. Kenneth M. Rae, Vice President for Research and Advanced Studies

PACIFIC AND INSULAR (continued)

University of Alaska (continued)
Mr. Francis V. O'Leary, Head, Central Personnel and Assistant to the President
Mrs. Ann Tremarello, Assistant Registrar

California State College at Long Beach
Dr. Raymond E. Lindgren, Academic Vice President
Dr. J. Frank Bok, Coordinator of Physical Therapy
Mr. W. Robert Winchell, Associate Professor, College of Engineering

Claremont Graduate School and University Center
Dr. Philip M. Rice, Dean of the Graduate School

Fresno State College
Dr. Dorothy D. Hayes, Chairman, Research Sequence in Social Work
Dr. Phyllis Watts, Dean, School of Graduate Studies
Dr. Horace O. Schorling, Dean, School of Professional Studies
Dr. C. Dale Burtner, Dean, College of Arts and Sciences
Dr. McKee Fisk, Dean, School of Business
Dr. Richard K. Sparks, Dean, School of Education
Mr. James H. Winter, Assistant to the Dean of Arts and Sciences
Mr. John V. P. Highlander, Coordinator of Television

Oregon State University
Dr. Henry P. Hansen, Dean of the Graduate School
Mr. George W. Gleeson, Dean, School of Engineering
Dr. John M. Ward, Dean, School of Science
Dr. Wendell H. Slabaugh, Associate Dean of the Graduate School
Mr. Jack V. Edling, Head, Instructional Research and Materials Center

University of Oregon
Dr. Arthur S. Flemming, President
Dr. Harry Alpert, Dean of Faculties
Dr. E. Leona Tyler, Dean of the Graduate School
Dr. Richard W. Lindholm, Dean, School of Business Administration
Dr. Paul B. Jacobson, Dean, School of Education
Dr. Leroy C. Merritt, Dean, School of Librarianship
Mr. Charles T. Duncan, Associate Dean of Faculties

University of Puerto Rico
Monsignor Adan Nigaglioni, Director of Medicine, San Juan Campus
Mr. Jose Ramos, Director of Graduate Studies
Ms. Ethel Rios de Betancourt, Dean of General Studies
Dr. Amato, Dean of Students
Mr. Cobin, Director of Planning
Rosa Esther Escalera

PACIFIC AND INSULAR (continued)

Sacramento State College
Dr. Stephen L. Walker, Academic Vice President
Dr. Emmett C. Thompson, Dean of Graduate Studies
Mr. Kenneth Norberg, Director of Audio-Visual Services
Mr. James Brodfield, Director of Curriculum

San Francisco State College
Dr. George C. Feliz, Dean of the Graduate School
Dr. Aubrey Haan, Dean, School of Education
Dr. Robert Thornton, Dean, School of Natural Sciences
Mr. Daniel Feder, Dean of Academic Planning
Mr. L. L. Strawn, Manager, Computer Center

Washington State University
Dr. Wallis Beasley, President
Dr. T. H. Kennedy, Vice President of Academic Affairs
Dr. James F. Short, Jr., Dean of the Graduate School
Dr. George B. Brain, Dean, College of Education
Dr. B. Roger Ray, Dean, College of Arts and Sciences

University of Washington
Mr. Ernest W. Conrad, Vice President of Business and Finance
Dr. Joseph L. McCarthy, Dean of the Graduate School
Dr. Solomon Katz, Dean of the College of Arts and Sciences
Dr. Kermit O. Hanson, Dean, College of Business Administration
Dr. Charles H. Norris, Dean, College of Engineering
Dr. William L. Phillips, Associate Dean, College of Arts and Sciences
Miss Henrietta Wilson, Assistant to the Dean of the Graduate School

Exhibit 3

INTERVIEW QUESTIONNAIRE

ACADEMY FOR EDUCATIONAL DEVELOPMENT, INC.
STANFORD UNIVERSITY - SCHOOL OF EDUCATION

____
Institution & Location

____
Person Reporting

1. Which of the present graduate and professional programs will experience the most growth at this institution in the next ten to fifteen years?

2. What new graduate and professional programs will be initiated at this institution in the next ten to fifteen years? By 1970?

   By 1975?

   By 1980?

3. Who should be interviewed concerning the future of graduate and professional education at this institution (name, title, location?

4. What are the major forces causing you to expand your present programs or to create new ones?

5. What data support your decision to grow, either through additions to existing programs or in the creation of new programs? (Please submit documents if available).

Exhibit 3
(continued)

6. Has your decision to expand been influenced in any way by a state, regional, local, or professional planning group? If your answer is positive, please name the group and comment on the influence.

7. What chain of approval (from your own faculty to the state legislature) is necessary:

   a) to expand an existing program, i.e., to increase enrollments of course offerings in medicine?

   b) to offer a new program in an existing school, i.e., to open a program in higher education in the school of education?

   c) to create a new school, i.e., to inaugurate a school of business administration?

8. What are the potential "roadblocks" to the successful implementation of your planning?

9. Do you see any significant changes in your past patterns of:

   Financing:

   Faculty Recruitment:

   Student Recruitment:

   Female Enrollment:

Exhibit 3
(continued)

10. What changes in basic charges to students do you expect in each five year period?

	$ 0 - $249	$250 - $499	$500 & Above
Present - 1970			
1971 - 1975			
1976 - 1980			

11. What percent of faculty time is presently spent on research?

What percent will be spent in the future?

12. How is research presently financed?

How will it be financed in the future?

What is the outlook for faculty salaries in the next five to ten years?

What will be the character of faculty loads in the next five to ten years?

13. What do you see as some of the significant emerging trends or innovations in graduate and professional education?

14. In the past there has been no direct general purpose federal aid to colleges and universities. Is such direct federal aid necessary to the implementation of your plans? (Please comment).

Exhibit 3
(continued)

15. What proportion of your total institutional faculty is and will be full and part-time for the following periods. (Give projected numbers if available.)

	Full-time Faculty	Part-time Faculty
1966-67		
1970-71		
1975-76		
1980-81		

16. What is the approximate percent of the following among your total faculty?

	1966-67	1970-71	1975-76	1980-81
Women				
Non-white Americans				
Foreign Nationals				

17. Does your institution award credit for such work as Peace Corps, Vista, etc?

	Now	In Future
For admission to graduate and professional study?		
For graduate and/or professional degree credit?		

18. Does your institution require teaching assistant experience?

For essentially all doctoral candidates?		
For a substantial number of doctoral candidates?		
Only for those actually needed by departments?		

19. To what extent will the expansion of graduate and professional school work on this campus be the result of the plan of state's system of higher education? Are the state's plans the same as the institution's plans?

20. How much do public and private plans for the expansion of graduate and professional work at existing institutions or the establishment of new institutions of higher education in graduate and professional areas depend upon federal government policies and programs?

21. What changes in federal programs and policies might be desirable to facilitate the expansion of existing programs or the establishment of new programs or new institutions? By types of institutions (such as graduate schools, medical schools, other professional schools, etc.)? By geographic areas?

Exhibit 3
(continued)

DEFINITIONS FOR GRADUATE AND PROFESSIONAL ENROLLMENTS

Professional Degree Students - those enrolled in a professional school or program which requires at least two or more academic years of previous college work for entrance and which requires a total of at least six academic years of college work for a degree.

Graduate Students - those who have obtained at least one standard bachelor's degree or first professional degree and are or could be a cnadidate for a master's or doctor's degree.

In-State Students - those whose legal residence, as determined at the institution, is in the same state as the institution.

Out-of-State Students - those whose legal residence, as determined at the institution, is in a state other than the state in which the institution is located. Generally such students would pay out-of-state fees.

Full-Time Students - those enrolled in credits equal to at least 75 percent of the normal full-time load. Normal full-time load is the amount of work required for graduation divided by the number of terms required for graduation.

Part-Time Students - those enrolled for less than 75 percent of the normal full-time load.

Full-Time Equivalent of Part-Time Students - the total number of credit hours of part-time students divided by the normal full-time load.

Exhibit 3
(continued)

Institution & Location

Person Reporting

E GRADUATE AND PROFESSIONAL ENROLLMENTS

	Humanities & Arts	Social Sciences	Natural & Physical Sciences	Law	Medicine	Veterinary Medicine	Dentistry	Education	Engineering	Business Admin.	Other (list)
Total Students											
Fall 1966											
Fall 1970											
Fall 1975											
Fall 1980											
In-State Students											
Fall 1966											
Fall 1970											
Fall 1975											
Fall 1980											
Out-of-State Students											
Fall 1966											
Fall 1970											
Fall 1975											
Fall 1980											

Exhibit 3
(continued)

Institution & Location

Person Reporting

E- GRADUATE AND PROFESSIONAL ENROLLMENTS

	Humanities & Arts	Social Sciences	Natural & Physical Sciences	Law	Medicine	Veterinary Medicine	Dentistry	Education	Engineering	Business Admin.	Other (list)
Full-Time Students											
Fall 1966											
Fall 1970											
Fall 1975											
Fall 1980											
Part-Time Students											
Fall 1966											
Fall 1970											
Fall 1975											
Fall 1980											
Full-Time Equivalents of Part-Time Students Reported in Line above.											
Fall 1966											
Fall 1970											
Fall 1975											
Fall 1980											

Exhibit 3
(continued)

____
College or School

____
Institution

____
Person Reporting

F-TRENDS IN GRADUATE AND PROFESSIONAL EDUCATION

If any of the following are characteristic of your school, courses, or programs please make a check at the left of the item. For all items please indicate your estimate of its future in your school.

		Within the next five to ten years		
		Will not be instituted or substantially changed	Will be discontinued or decreased	Will be instituted or increased
A.	Teaching Media			
___	1. Closed circuit television	___	___	___
___	2. Regional E.T.V.	___	___	___
___	3. Video tape	___	___	___
___	4. Language laboratory	___	___	___
___	5. Learning and/or listening laboratories (including audio-tutorials, dial access units, etc.)	___	___	___
___	6. Programmed instruction			
___	a. Book form	___	___	___
___	b. Teaching machine	___	___	___
___	7. Computer assisted instruction	___	___	___
___	8. Instructional films	___	___	___
___	9. Independent Study	___	___	___
B.	Characteristics of the Curriculum			
	10. Tends to emphasize broad coverage over specialization or professional education			
___	a. At first professional degree level	___	___	___
___	b. At master's level	___	___	___
___	c. At doctoral level	___	___	___
	11. Tends to emphasize specialized or professional education over broad coverage			
___	a. At first professional degree level	___	___	___
___	b. At master's level	___	___	___
___	c. At doctoral level	___	___	___
	12. Tends to emphasize theory and research			
___	a. At first professional degree level	___	___	___
___	b. At master's level	___	___	___
___	c. At doctoral level	___	___	___

Exhibit 3
(continued)

	If any of the following are characteristic of your school, courses, or programs please make a check at the left of the item. For all items please indicate your estimate of its future in your school.	Within the next five to ten years		
		Will not be instituted or substantially changed	Will be discontinued or decreased	Will be instituted or increased
	B. Characteristics of the Curriculum (contnd.)			
	13. Tends to emphasize the practical and applied aspects			
___	a. At first professional degree level	___	___	___
___	b. At master's level	___	___	___
___	c. At doctoral level	___	___	___
___	14. Tends to emphasize interdisciplinary programs	___	___	___
	C. Degrees			
___	15. A new "all but the dissertation" degree is awarded	___	___	___
___	16. Essentially, only the doctorate awarded	___	___	___
___	17. Students may earn the degree on the basis of part-time, non-resident or evening school attendance			
___	a. The first professional degree	___	___	___
___	b. The master's degree	___	___	___
___	c. The doctoral degree	___	___	___
___	18. Foreign language is not required for the doctors degree or it may be waivered or substituted for in cases in which the language is not directly applicable to the candidate's field of study	___	___	___
___	19. Graduate students receive degree credit for teaching	___	___	___
___	20. Graduate students receive degree credit for research (other than for dissertation)	___	___	___
	D. Professional Staff			
___	21. Graduate teaching fellows are required to participate in an organized in-service training program	___	___	___
___	22. What is the outlook for each of the following on your campus:			
___	a. Class size	___	___	___
___	b. Faculty-student ratio	___	___	___
___	c. Faculty teaching load	___	___	___
___	d. Large lectures by master teachers	___	___	___
	E. Administrative Practices			
	23. Academic calendar			
___	a. Semester	___	___	___
___	b. Trimester	___	___	___
___	c. Quarter	___	___	___
___	d. Year round calendar (goal is for approximately equal enrollment at each registration period twelve months a year)	___	___	___

Exhibit 3
(continued)

If any of the following are characteristic of your school; courses, or programs please make a check at the left of the item. For all items please indicate your estimate of its future in your school.

E. Administrative Practices (Continued)

		Within the next five to ten years		
		Will not be instituted or substantially changed	Will be discontinued or decreased	Will be instituted or increased
___	24. Facility useage equals approximately 80-90 hours a week	___	___	___
	25. Computer use			
___	a. For class scheduling	___	___	___
___	b. By Registrar's office (other than for scheduling)	___	___	___
___	c. By Admissions office	___	___	___
___	d. By Student personnel office	___	___	___
___	e. By Business office	___	___	___
___	26. Special administrative organization or structure to stimulate and assist innovation, change, experimental courses and practices	___	___	___
	27. Interinstitutional cooperation			
___	a. Interstate compact agencies (WICHE, SREB, NEBHE, etc.)	___	___	___
___	b. Corporate groups for cooperation	___	___	___
___	c. Other interinstitutional agreements	___	___	___
	28. Evaluation of programs, methods, and structures is carried out by			
___	a. a part-time or full-time evaluation officer	___	___	___
___	b. an evaluation organization from either within or without the institution	___	___	___
___	c. a faculty committee	___	___	___
___	d. individuals; as they see a need for evaluation	___	___	___
___	29. An organized effort is made to introduce faculty to the possible uses of new media.	___	___	___
___	30. A special staff is retained to intoduce faculty to the new media	___	___	___

___ 31. How do faculty regard the new teaching media, such as T.V., video tape, instructional films, learning laboritories, and the like? Is the faculty satisfied that the use of these devices can be expanded and still maintain quality education?

___ 32. What do you see as the most significant, emerging trends of graduate and professional education at your institution?

Exhibit 3
(continued)

____
Institution & Location

____
Person Reporting

L - LAND, FACILITY AND EQUIPMENT EXPANSION FOR GRADUATE OF PROFESSIONAL EDUCATION

	1966-67			1970-71			1975-7			1980-81		
Briefly describe for each period any land to be acquired by gift or purchase for purposes of graduate or professional education.												
Bridfly describe for each period any improvements of present instructional facilities.* (include remodeling and/or additions and fixed equiptment)												
Briefly describe for each period any instructional facilities to be constructed.												
	Fed. Govt.	State Local	Private sources	Fed. Govt.	State Local	Private Sources	Fed. Govt.	State Local	Private Sources	Fed. Govt.	State Local	Private Sources
Please indicate the percent of funds for improvements, or construction, from the Federal Government, State and Local Government, and Private Sources.	____	____	____	____	____	____	____	____	____	____	____	____

* Include as instructional facilities any facilities used regularly for instruction of students, faculty offices, of for library purposes.

Exhibit 3
(continued)

Institution & Location

Name & Title of Interviewee

B. Revised-Graduate and Professional Financial Information

1. For the construction of new academic facilities (including replacement of those which are no longer usable but excluding dormitories), please give the approximate order of magnitude (best estimate):
   a. How much your institution plans to spend on the construction of new academic facilities? (This assumes the total projected outlay materializes.)
   b. How much of this total planned expenditure has actually been state appropriated or subsumed under an approved bond issue or seems at this point reasonably secure based on state or private funds?
   c. How much your institution expects or hopes to obtain in federal funds according to present plans for financing capital outlays?

	Projected Outlay New Facilities (a)	Amount Actually Funded (b)	Projected Federal Funds (c)
Period 1966-67 through 1969-70			
Period 1970-71 through '74-75			

2. For graduate and professional students what will be the amount of tuition and fees in the future? (Give publicly announced figure, if any, and your "best estimate.")

	In-state Students		Out-of-State Students	
	Announced	"Best Estimate"	Announced	"Best Estimate"
1966-67				
1970-71				
1975-76				
1980-81				

3. What is your best estimate of the cost of educating a full-time equivalent student for one year?

All students combined?	$	Graduate (excluding medical)	$
All undergraduates?	$	Medical Students	$

4. What proportion of your total institutional faculty is and will be full and part-time for the periods? (Give projected numbers if available.)

	Full-time Faculty	Part-time Faculty
1966-67		
1970-71		
1975-76		
1980-81		

Exhibit 3
(continued)

____
Institution & Location

____
Name & Title of Interviewee

B. ANTICIPATED EXPENDITURES AND MEANS OF FINANCING "ENTIRE UNIVERSITY OUTLAYS, SELECTED YEARS (in Thousands of Dollars)

	1966-1967		1970-1971		1975-1976		1980-1981	
	Capital	Operating	Capital	Operating	Capital	Operating	Capital	Operating
EXPENDITURES (Educational & General):								
For graduate and professional programs								
For the "entire university"								
MEANS OF FINANCING "ENTIRE UNIVERSITY" OUTLAYS:								
Tuition and Fees								
Endowment Earnings								
State Funds								
Private Funds								
Federal Funds								
Reserves or Deficits								
Other								

Exhibit 3
(Continued)

Institution & Location ____________

Person Reporting ____________

D-GRADUATE AND PROFESSIONAL DEGREES GRANTED

	Humanities & Arts	Social Sciences	Natural & Physical Sciences	Law	Medicine	Veterinary Medicine	Dentistry	Education	Engineering	Business	Other (list)
Masters Degree or First Professional Degree (M.A.,M.S., M.B.A.,M.A.T.,L.L.B., B.D.)											
1966-67											
1970-71											
1975-76											
1980-81											
Doctor of Philsophy											
1966-67											
1970-71											
1975-76											
1980-31											
Doctor of Education, Laws, Medicine, Dentistry, Veterinary Medicine, Optometry, Divinity											
1966-67											
1970-71											
1975-76											
1980-81											

Exhibit 3
(continued)

Institution & Location ______________

Person Reporting ______________

F- FACULTY INFORMATION

	Humanities & Arts	Social Sciences	Natural & Physical Sciences	Law	Medicine	Veterinary Medicine	Dentistry	Education	Engineering	Business	Other (list)
Salary Range											
1966-67											
1970-71											
1975-76											
1980-81											
Mean Salary											
1966-67											
1970-71											
1975-76											
1980-81											
Fringe Benefits (as proportion of total compensation)											
1966-67											
1970-71											
1975-76											
1980-81											
Mean Teaching Load (in credit hours)											
1966-67											
1970-71											
1975-76											
1980-81											